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Workshop Manual
Fabia II 2007 ➤ , Fabia II 2009 ➤ ,
Fabia II 2011 ➤ , Octavia II 2004 ➤ ,
Octavia II 2010 ➤ , Rapid 2011 ➤ ,
Rapid NH 2013 >, Rapid NH 2014 >, Roomster 2006 >, Superb II 2008 >, Superb II 2011 >, Yeti 2010 >,
Yeti 2011 ➤
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1.5/77;	81 1.	6/55;	66; 7	7 kW	TDI	CR e	ngine)	
Engine ID	CAY A	CAY B	CAY C	CLN A	CWX B	CMX			

Edition 04.2019





List of Workshop Manual Repair Groups

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Technical information should always be available to the foremen and mechanics, because their careful and constant adherence to the instructions is essential to ensure vehicle road-worthiness and safety. In addition, the normal basic safety precautions for working on motor vehicles must, as a matter of course, be observed.

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1.1







00 – Technical data

1 Identification

(SRL001375; Edition 04.2019)

⇒ "1.1 Engine number, engine data", page 1

1.1 Engine number, engine data

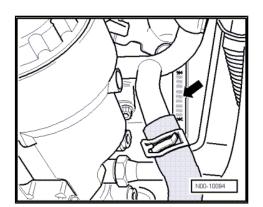
The engine number ("engine identification characters" and "serial number") is located at the engine/gearbox joint -arrow-.

In addition, a sticker with the "engine identification characters" and "serial number" is attached to the timing belt guard.

The engine identification characters are also indicated on the vehicle data sticker.

Vehicles with four-digit engine identification characters

- Starting with the letter "C", new four digit engine codes have been introduced.
- ♦ The first 3 digits of the engine identification characters refer to the displacement and the mechanical construction of the engine. They are type-punched on the cylinder block including the serial number.
- ♦ The 4th digit refers to the output and torque of the engine and depends upon the engine control unit.



Engine codes	CAYA	CAYB	CAYC	CLNA	CWXB	CWXC
Man- Fabia II ufac- tured	03.2010 > 05.2015	03.2010 ► 05.2015	03.2010 > 05.2015			
Room- ster	1-0	03.2010 > 05.2015	03.2010 ► 05.2015			
Octavia II	+		06.2009 ► 04.2013			
Superb II			09.2010 ► 08.2015			
Yeti		11.2010 05.2015				
Rapid India				09.2011 ► 11.2015	08.2014 ►	08.2016 ►
Rapid NH		08.2013 ► 05.2015	07.2012 ► 05.2015	02.2013 ► 11.2015		
Emission standards con- forming to	EU5	EU5	EU5	EU4/BS4	BS4	BS4
place place ment	JFO A. S. 598 A AUT s of infoil.598 in this		antee or 1598 any lial by ŠKOD 598 O A. S.		1498	1498
Out- kW at put rpm		66- 4200	77- 4400	77- 4000	77/4350 4450	81/3500 4000
Tor- Nm at que rpm		230/1500 2500	250/1500 2500	250/1500 2500	250/1500 2500	250/1500 3000
Bore ∅ mm	79.5	79.5	79.5	79.5	77.0	77.0
Strok mm e	80.5	80.5	80.5	80.5	80.5	80.5



Engine codes	CAYA	CAYB	CAYC	CLNA	CWXB	CWXC
Cylinder/ valves per cyl- inder	4- 4	4- 4	4- 4	4- 4	4- 4	4- 4
Compression ratio	16.5	16.5	16.5	16.5	16.5	16.5
Firing order	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2
Cata- lytic con- ver- ter	yes	yes	yes	yes	yes	yes
Exhaust gas recirculation with radiator	yes	yes	yes	yes	yes	yes
Tur- bo- char ging	yes	yes	yes	yes	yes	yes
Charge air cooler	yes	yes	yes	yes	yes	yes
Diesel particle filter	yes	yes	yes	no	no	no
Balancing shaft module	no	no	no	no	no	no



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2 Safety instructions

- ⇒ "2.1 Safety precautions when working on fuel supply system", page 3
- ⇒ "2.2 Safety precautions when working on vehicles with a start/ stop system", page 5
- ⇒ "2.3 Safety precautions during road tests in which testing and measuring equipment is used", page 5
- ⇒ "2.4 Safety precautions when working on cooling system", page 5
- ⇒ "2.5 Safety precautions when working on the exhaust system", page 5

2.1 Safety precautions when working on fuel supply system



WARNING

- ◆ The fuel or the fuel lines in the fuel system can become very hot (risk of scalding)!
- ♦ The fuel system is under pressure!
- Wear safety goggles and safety clothing, in order to avoid injuries and skin contact with fuel.
- Place cleaning cloths around the connection point before detaching cable connections. Reduce pressure by carefully removing the wiring.

For reasons of safety, the power supply to the fuel pump must be interrupted before the fuel system is opened. The fuel pump would otherwise be activated when the driver's door is opened. One of the following options must be used to interrupt the current supply:

◆ Disconnect battery

or

◆ Take out fuse for fuel pump relay - J17-

or

◆ Pull connector off fuel delivery unit flange.



WARNING

When undertaking all installation work, particularly in the engine compartment because of its cramped construction, please observe the following:

- Lay lines of all kinds (for example, for fuel, hydraulic fluid, cooling fluid and refrigerant, brake fluid, vacuum) and electrical lines in such a way that the original line guide is re-established.
- Ensure that there is adequate free access to all moving or hot components.







Caution

In order to avoid the high pressure pump to run dry and to achieve a quick engine start after parts are replaced, the following points must be observed.

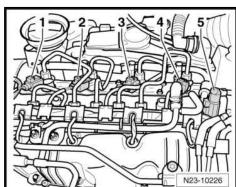
- If parts of the fuel system were removed or replaced, it is necessary to initiate the basic setting "check fuel pump" in order to vent the fuel system ⇒ Vehicle diagnostic tester.
- If the fuel pump, fuel line or fuel filter were removed or replaced, the basic setting "check fuel pump" must be initiated »once« before the first engine start.
- If the high pressure pump is removed or replaced, the initial fuel filling of the high pressure pump must be carried out before the first engine start
 - ⇒ "1.3 Filling/bleeding the fuel system", page 429.
- If the high pressure system was opened, it must be checked for tightness
 - ⇒ "2.9 Check the fuel system for tightness", page 457

When removing and installing the fuel gauge transmitter or the fuel delivery unit from a full or partly filled fuel tank, pay attention to the following points:

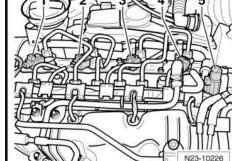
- The extraction hose of an exhaust extraction system which is switched on, must be positioned close to the assembly opening of the fuel tank in order to extract the released fuel vapours, even before the work is commenced. If no exhaust extraction of information in this document. Copyright by ŠKODA AUTO A. S. system is available, a radial fan (motor not in air flow of fan) with a delivery volume of more than 15 m³/h must be used.
- Prevent skin contact with fuel! Wear fuel-resistant gloves!

Observe the following points to prevent injury to persons and/or damage to the injection and preheating system:

- People, who have a heart pacemaker implant, should not bend over the engine compartment when the engine is running, as the injection units generate an output high voltage pulse.
- No fuel lines must be opened when the engine is running.
- Disconnect and connect wires of the preheating and injection system as well as measuring device wires when the ignition is switched off.
- Do not carry out engine wash unless the ignition is switched
- If the engine must be operated at starter speed, without it starting, disconnect the plug -5- at the fuel pressure regulating valve - N276- .
- Before disconnecting the battery determine the code of the radio fitted with anti-theft coding.
- Always switch off the ignition before disconnecting and reconnecting the battery. Otherwise the engine control unit may be damaged.
- After connecting the battery, carry out certain additional operations ⇒ Electrical System; Rep. gr. 27.









2.2 Safety precautions when working on vehicles with a start/stop system

When working on vehicles with start/stop system, please observe the following:



WARNING

There is risk of injury from automatic engine starting on vehicles with start/stop system.

- In vehicles with the start/stop system activated (identifiable by an indication in the dash panel insert) the engine can start automatically if required.
- ◆ It is therefore necessary to ensure that the start-stop system is deactivated when carrying out work on the vehicle (switch ignition off, if required switch ignition on again).

2.3 Safety precautions during road tests in which testing and measuring equipment is used



WARNING

There is a risk of accident from deflection and insufficient securing of testers and measuring instruments.

There is also a hazard from the release of the passenger airbag in the event of an accident.

- Using testers and measuring instruments during driving operation causes distraction.
- Increased risk of injury from unsecured testers and measuring instruments must be prevented.
- ◆ Testers and measuring instruments must always be secured on the rear seat using a seat belt and operated by a 2nd person from there.

2.4 Safety precautions when working on cooling system



WARNING

Hot steam may escape when the expansion reservoir is opened.

- Wear safety goggles and safety clothing to avoid eye injuries and scalding.
- Cover cap with cloth and open carefully.

2.5 Safety precautions when working on the exhaust system

Danger of poisoning by chemical substances.

Exhaust gas temperature sensors can contain chemical substances. Risk of injury to the respiratory tract and poisoning.



The exhaust gas temperature encoder must not be cut or opened.

Risk of injury due to hot condensate and particles in the exhaust system

The exhaust system may contain hot condensate and/or particles. Risk of injury to the eyes, skin and the respiratory tract as well as danger of poisoning.

Wear protective gloves and safety goggles when disconnecting the exhaust system.

When disconnecting, use a suction device or provide adequate ventilation.



Caution

There is a risk of damage to the decoupling elements.

- ◆ Do not twist decoupling element more than 10°.
- ◆ Do not load decoupling element with tensile stress.
- Do not damage wire mesh on decoupling element.





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3 Repair instructions

- ⇒ "3.1 Rules of cleanliness", page 7
- ⇒ "3.2 Foreign bodies in the engine", page 8
- ⇒ "3.3 Contact corrosion", page 8
- ⇒ "3.4 Cable routing and securing", page 8
- ⇒ "3.5 Assembly of radiators and condensers", page 8
- ⇒ "3.6 General instructions for charge air system", page 8
- ⇒ "3.7 Supplementary instructions and assembly work on vehicles with an air conditioning system", page 9

3.1 Rules of cleanliness

- ⇒ "3.1.1 Regulations concerning cleanliness when working on the fuel supply/fuel injection system", page 7
- ⇒ "3.1.2 Regulations concerning cleanliness when working on the exhaust gas turbocharger", page 7

3.1.1 Regulations concerning cleanliness when working on the fuel supply/fuel injection system

Carefully observe the following "rules" for cleanliness when working on the fuel supply/injection system:

- Thoroughly clean the connection points and their surroundings before releasing.
- Place removed parts on a clean surface and cover. Use lintfree cloths!
- Carefully cover or close opened components if the repair is not completed immediately.
- Only install clean parts: remove spare parts from their wrapping immediately before fitting. Do not use any parts which have been stored unwrapped (e.g. on a shelf or in a tool box).
- ♦ When the system is opened: Avoid using compressed air. Avoid moving the vehicle.
- Also make sure no diesel fuel runs onto the coolant hoses. If this is the case clean the hoses immediately. Replace immediately any hoses which have suffered damage.

3.1.2 Regulations concerning cleanliness when working on the exhaust gas turbocharger

Carefully observe the following "rules" for cleanliness when working on the exhaust gas turbocharger:

- ♦ Thoroughly clean the connection points and their surroundings before releasing.
- Place removed parts on a clean surface and cover. Use linter is not permitted free clothst rised by SKODA AUTO A. S. SKODA AUTO A. S. does not guarantee or accept any liability
- Carefully cover or close opened components if the repair is not completed immediately.
- Only install clean parts: remove spare parts from their wrapping immediately before fitting. Do not use any parts which have been stored unwrapped (e.g. on a shelf or in a tool box).



 When the system is opened: Avoid using compressed air. Avoid moving the vehicle.

3.2 Foreign bodies in the engine

To prevent the penetration of foreign bodies, open channels of the inlet connection and exhaust tract must be sealed with suitable plugs during assembly works on the engine, for example from the screw plug set for engine - VAS 6122- .

3.3 Contact corrosion

The use of unsuitable connection elements (screws, nuts, washers, etc.) causes contact corrosion.

This is why only connection elements with a special surface coatings are fitted.

Therefore, the rubber or plastic parts and the adhesives are made from electrically non-conductive materials.

If there is a question mark about the suitability of parts, generally use new parts ⇒ ETKA - Electronic Catalogue of Original Parts.

3.4 Cable routing and securing

- To ensure the original fitting position, e.g. lines for fuel, hydraulics, vacuum, activated charcoal filter system lines or electric cables must be marked before removal. Make photos or sketches where necessary.
- Sufficient clearance from all moving or hot components must be ensured in the engine compartment due to its cramped construction. This prevents damage to lines.

3.5 Assembly of radiators and condensers

The radiator, condenser and charge air cooler may have minor indentations on the fins, even if assembled correctly. This does not constitute damage. Radiators, condensers and charge air coolers must not be replaced because of these indentations.

3.6 General instructions for charge air system



WARNING

When undertaking all installation work, particularly in the engine compartment because of its cramped construction, please observe the following:

- Lay lines of all kinds (for example, for fuel, hydraulic fluid, cooling fluid and refrigerant, brake fluid, vacuum) and electrical lines in such a way that the original line guide is re-established.
- Ensure that there is adequate free access to all moving or hot components.

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Caution

In case a mechanical damage to the exhaust gas turbocharger is found, for example, damage to the compressor wheel, it is not sufficient to only replace the turbocharger. In order to avoid consequential damage, perform the following tasks:

- Clean all oil lines.
- ◆ Change engine oil and oil filter.
- Check air filter housing, air filter element and charge air pipes as well as charge air hoses for soiling.
- Check all the air guides and the charge air cooler for foreign bodies.

If foreign bodies are detected in the charge air system, the complete charge-air routing must be cleaned and if necessary the charge air cooler must also be replaced.

If damage to the exhaust gas turbocharger is evident, change the engine oil and engine oil filter.

- ◆ The charge-air system must be tight, check ⇒ "2.4 Checking the charge-air system for leak-tightness", page 414.
- Replace the gaskets, the sealing rings and the self-locking nuts.
- ♦ Hose connections and hoses for the charge air system must be free of oil and grease before being installed. Only seals and sealing surfaces of the quick couplings are coated with oil ⇒ "2.3 Hose connections with screw clamps", page 414.
- Observe markings on the hoses and components.
- All hose connections of the charge air system are secured with spring strap clamps or push-fit couplings. does not guarantee or accept any liability
- ◆ Only install approved clamps for securing the hose connections ⇒ ETKA Electronic Catalogue of Original Parts .
- Spring-type clip pliers are recommended for installation of spring-type clips.
- Install hose connections with screw clamps
 ⇒ "2.3 Hose connections with screw clamps", page 414
- Before screwing down the oil feed line, fill the exhaust turbocharger via the connection fitting with engine oil.
- To ensure the oil supply to the exhaust gas turbocharger, leave the engine running for about 1 minute after installing the exhaust gas turbocharger.
- 3.7 Supplementary instructions and assembly work on vehicles with an air conditioning system



WARNING

Do not open the refrigerant circuit of the air conditioning system.





Note

To prevent damage to condenser or to refrigerant lines/hoses, ensure that the lines and hoses are not stretched, kinked or bent.

Steps which should be taken in order to remove and install the engine without opening the refrigerant circuit:

- Unscrew the retaining clip(s) on the refrigerant lines.
- Remove V-ribbed belt
 ⇒ "1.3 Removing and installing V-ribbed belt", page 74
- Remove AC compressor from the bracket for auxiliary units

 ⇒ "1.1 Assembly overview V-ribbed belt", page 60
- Mount the air conditioning compressor and the condenser in such a way that the refrigerant lines/hoses are not under tension



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10 – Removing and installing engine

1 Removing and installing engine

- ⇒ "1.1 Removing and installing engine trim panel", page 11
- ⇒ "1.2 Removing engine", page 12
- ⇒ "1.3 Securing the engine to the assembly stand", page 29
- ⇒ "1.4 Installing engine", page 30
- ⇒ "1.5 Assembly bracket", page 38
- ⇒ "1.6 Checking and adjusting the assembly bracket", page 42
- ⇒ "1.7 Removing and installing engine support", page 46

1.1 Removing and installing engine trim panel



Caution

The brackets of the engine cover on the cylinder head cover can break off when they are incorrectly removed.

- ♦ It is therefore necessary to remove the engine cover according to the following instruction.
- Successively slacken the engine cover in the marked sequence -1- to -4- from the fixing points. To do so, grip the engine cover from underneath as far as possible in the area of the -arrows- and pull it upwards out of the attachment.

Installing



Caution

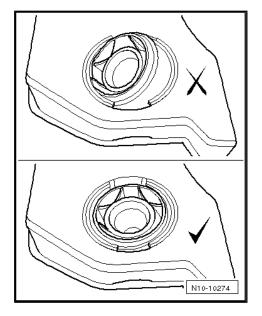
Before installing the engine cover, check the correct fitting position of the 4 fixing elements (ball sockets), if necessary move them into the correct position. Otherwise this can lead to damage to the engine cover.





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- If necessary, press the ball sockets of the engine cover into the correct position.
- Position the engine cover onto the fixing points and press it in at the corners until it clicks into place.



1.2 Removing engine

⇒ "1.2.1 Remove engine, Fabia II, Roomster, Rapid India, Rapid NH", page 12

⇒ "1.2.2 Remove engine, Octavia II, Superb II, Yeti", page 20

1.2.1 Remove engine, Fabia II, Roomster, Rapid India, Rapid NH

Special tools and workshop equipment required

- ◆ Engine mount T10012-
- ◆ Engine and gearbox jack, e.g. -V.A.G 1383 A- or -VAS 6931-
- ♦ Catch pans, e.g. eVAS 6208 or commercial purposes, in part or in whole, is not permitted
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 Step ladder the correctness of information in this document. Copyright by ŠKODA AUTO A. S.
- Pliers for spring-type clips



Note

- ♦ VAS
- ♦ If the stripped engine is replaced after engine removal, the tightening of the injection unit clamping claws on the new stripped engine must be checked. Tightening torque: Pos. -2-⇒ "2.2 Summary of components and fitting position of the clamping claw - injection units (piezo injectors)", page 435.
- ♦ The engine is removed downwards together with the gearbox.
- All cable straps that have been loosened or cut open when the engine was removed must be attached again in the same location when the engine is installed again.
- ♦ Collect drained coolant in a clean container for proper disposal or reuse.



Caution

When undertaking all installation work, particularly in the engine compartment due to its cramped construction, please observe the following:

- Lay lines of all kinds (for example, for fuel, hydraulic fluid, cooling fluid and refrigerant, brake fluid, vacuum) and electrical lines in such a way that the original line guide is re-established.
- To avoid damage to lines/wiring, ensure sufficient clearance to all moving or hot components.

Observe all safety measures and notes for assembly work on the fuel supply and injection system, at the charge air system and observe as well the rules for cleanliness

⇒ "3.1 Rules of cleanliness", page 7.

- If present, take the adapter for the anti-theft wheel bolts out of the luggage compartment.
- Remove front wheels ⇒ Chassis; Rep. gr. 44.
- Disconnect the battery-earth strap with the ignition off ⇒ Electrical System; Rep. gr. 27.
- Remove engine cover
 ⇒ "1.1 Removing and installing engine trim panel", page 11
- Remove air filter housing with air mass meter G70- and intake does not guarantee or accept any liability hose ⇒ "3.5 Removing and installing air filter", page 479 scument. Copyright by SKODA AUTO A. S.
- Remove battery and battery tray ⇒ Electrical System; Rep. gr. 27.
- Release plug -3- from charge pressure control solenoid valve
 N75- .
- Unscrew charge pressure control solenoid valve N75 with fixture -2- and place it on the engine.
- Remove shift mechanism from gearbox ⇒ Gearbox; Rep. gr. 34.
- Remove the clutch slave cylinder from the gearbox ⇒ Gearbox; Rep. gr. 30.



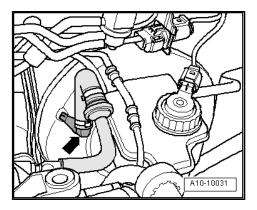
Caution

After removing the slave cylinder, do not depress the clutch pedal.

N21-10258

For Fabia II, Roomster vehicles

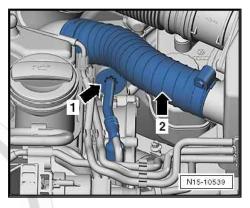
Remove the vacuum hose -arrow- from the brake servo unit.





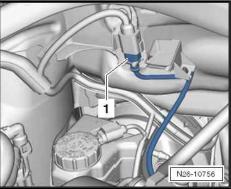
For vehicles Rapid India, Rapid NH

 Disconnect vacuum line behind the holder at the cylinder head -arrow 1-.



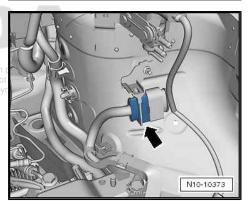
For Rapid India vehicles

Disconnect the plug connection -1- for the exhaust gas temperature sender 1 - G235- and loosen from the bracket.

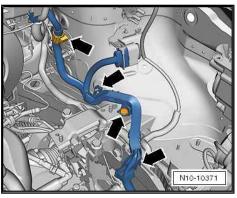


Continued for all vehicles

- Unlatch the fuse and disconnect the front plug from the engine control unit
 ⇒ "4.1 Removing and installing engine control unit J623", page set 483.
- Disconnect plug connection -arrow-.

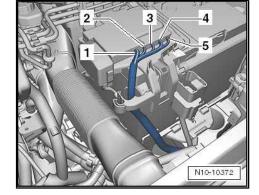


- Carefully slacken the engine wiring harness on its fixing points -arrows-.
- Place the engine wiring harness on the engine.





- Unscrew the positive cable to the generator -1-, unclip and place on the gearbox.
- Unscrew the cable from the starter and the gearbox and remove it.



Undo screws -1-, -2- and -3- and remove the pendulum support.

For vehicles Fabia II, Roomster, Rapid NH with engine identification characters CAYB, CAYC

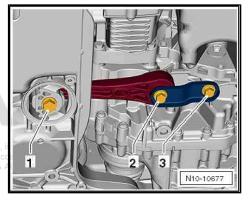
Remove pre-exhaust pipe with diesel particle filter
 "1.6 Removing and installing pre-exhaust pipe",
 page 525.

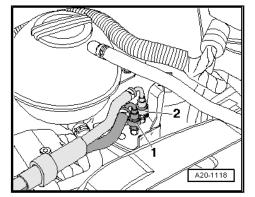
For vehicles Rapid India, Rapid NH with engine identification characters CLNA by copyright. Copying for private or commercial purposes, in part

 Remove pre-exhaust pipe with catalytic converter. Copyright by SKOD/ ⇒ "1.6 Removing and installing pre-exhaust pipe", page 525.



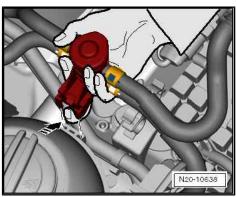
- Separate fuel feed line -2- and fuel return-flow line -1-, to do so press the release buttons. Unlock the quick coupling and disconnect
 - ⇒ "2.10 Separating push-on couplings", page 343.
- If necessary, collect the fuel which flows out with a cloth.





For vehicles Fabia II, Roomster, Rapid NH

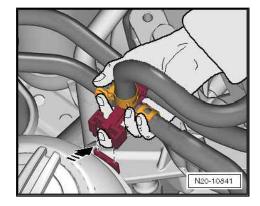
 Unlock the catch peg with a finger and pull the fuel preheating valve upwards out of the guide of the coolant expansion bottle.





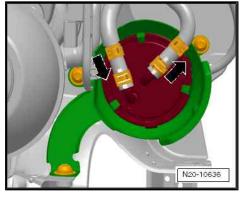
For Rapid India vehicles

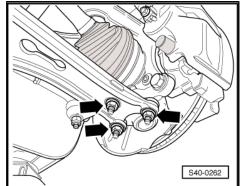
Unlock the catch peg with a finger and pull the T-piece upwards out of the guide from the coolant expansion bottle.



Continued for all vehicles

- Push the catch pegs up and remove the fuel filter towards the top.
- Place the fuel filter and the fuel hoses together with the fuel preheating valve on the engine.
- Remove fuel filter bracket.
- Remove the right and left wheelhouse liner ⇒ Body Work;
 Rep. gr. 66.
- Unscrew the nuts from the right steering joint -arrows- and press the steering joint out of the suspension arm.



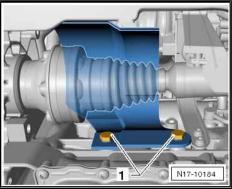




- Unscrew screws -1- of protective plate for right drive shaft, if present.
- Remove cardan shafts from gearbox and secure with wire ⇒ Chassis; Rep. gr. 40.

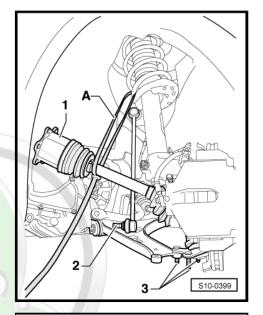


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- Unscrew the nut from the left coupling rod -2- and press off the coupling rod from the anti-roll bar.
- Unscrew the nuts from the left steering joint -3- and press the steering joint out of the suspension arm.



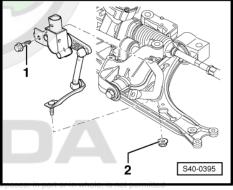
- Unscrew the nut -2- from the front left track control arm on installed front left vehicle level sensor -G78-.
- Turn the wheel bearing housing to the left up to the stop.
- Swivel the steering joint outwards and secure the drive shaft
 -1- with a band -A- in the wheelhouse.

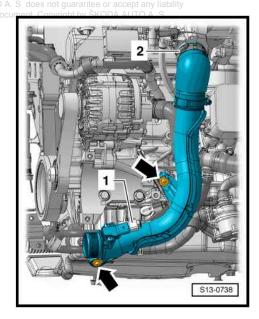
For Rapid India vehicles

Remove assembly carrier without steering gear ⇒ Chassis;
 Rep. gr. 40 .

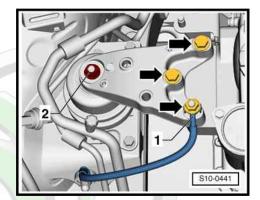
Continued for all vehicles

- Remove right charge air hose ected by copyright. Copying for private or commercial punless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A.
- Unscrew screws -arrows-.
- Loosen hose clamp -2-.
- Disconnect the plug -1- at the charge pressure sender G31with intake air temperature sender - G42- and remove the right charge air pipe.
- Drain coolant ⇒ "1.2 Draining and filling coolant", page 236.
- Remove the remaining coolant hoses from the radiator.





- Remove the earth connection -1- from the assembly bracket.
- Remove coolant expansion bottle and place on the engine.



 Unclip the filler neck of the washer fluid reservoir -1- and lay to the side.

On vehicles with air conditioning

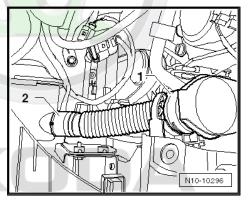
Remove the generator ⇒ Electrical System; Rep. gr. 27.



WARNING

Risk of injury through refrigerant.

Do not open the refrigerant circuit of the air conditioning system.



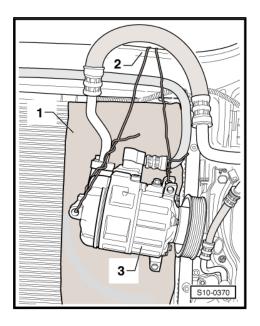
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Caution

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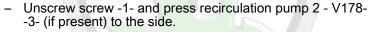
Risk of damaging the condenser as well as the refrigerant lines and hoses.

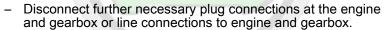
- ♦ Do not over-tension or buckle refrigerant lines and hoses.
- Remove the AC compressor from the bracket for auxiliary units ⇒ Heating, Air Conditioning; Rep. gr. 87.
- Attach the AC compressor -3- e.g. behind the lock carrier as shown in the figure. As protection put a sheet of cardboard -1- on the radiator wall.



Continued for all vehicles

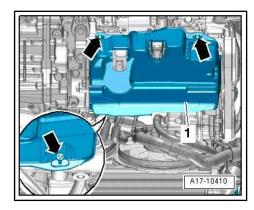
Remove noise insulation of oil pan -1-, to do so slacken the fixing parts -arrows-.

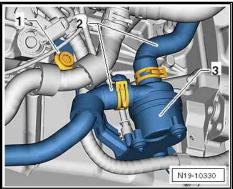


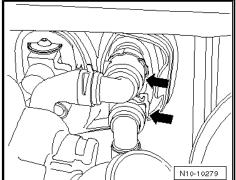


Separate the quick couplings -arrows- at the heat exchanger. Unclamp all remaining connecting, coolant, vacuum and suc-

Release all remaining plugs at engine and gearbox and lay







- Screw engine mount T10012- to the cylinder block with nut -2- and screw -1- to 20 Nm.
- Insert the engine and gearbox jack, e.g. -V.A.G 1383 A- or -VAS 6931- into the engine mount and raise it slightly.

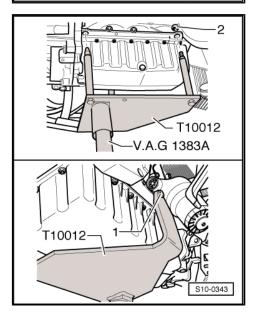


Note

tion hoses from the engine.

aside the relevant lines.

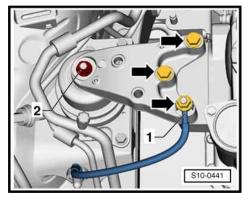
Use double ladder to release the screws for the engine/gearbox mounting.





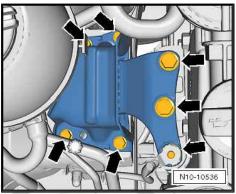
For vehicles Fabia II, Roomster, Rapid NH

 Release the screws which connect the engine mount with the engine support -arrows-.



For Rapid India vehicles

Unscrew engine mounting and remove completely -arrows-.



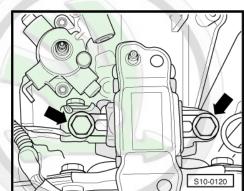
Continued for all vehicles

Remove the assembly bracket at the gearbox. Unscrew screws -arrows-.



Note

- Check whether all hose and line connections between engine, gearbox and body are released.
- When lowering carefully guide the engine with the gearbox, in order to avoid damage.
- Ensure the necessary space for lowering the assembly by pressing off the assembly carrier.
- Carefully lower engine with gearbox. During this procedure, turn or move the engine with the gearbox depending upon the constriction.
- Remove the gearbox from the engine.



1.2.2 Remove engine, Octavia II, Superb II, gyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liabilit with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.

Special tools and workshop equipment required

- Unlocking tool , e.g. -T10236-
- Engine mount T10012-
- Engine and gearbox jack, e.g. -V.A.G 1383 A- or -VAS 6931-
- ♦ Catch pan , e.g. -VAS 6208-
- Step ladder
- Pliers for spring-type clips





Note

- If the stripped engine is replaced after engine removal, the tightening of the injection unit clamping claws on the new stripped engine must be checked. Tightening torque: Pos. -2-"2.2 Summary of components and fitting position of the clamping claw - injection units (piezo injectors)", page 435.
- The engine is removed downwards together with the gearbox.
- All cable straps that have been loosened or cut open when the engine was removed must be attached again in the same location when the engine is installed again.
- Collect drained coolant in a clean container for proper disposal or reuse.



Caution

When undertaking all installation work, particularly in the engine compartment because of its cramped construction, please observe the following:

- ◆ Lay lines of all kinds (for example, for fuel, hydraulic fluid, cooling fluid and refrigerant, brake fluid, vacuum) and electrical lines in such a way that the original line guide is re-established.
- To avoid damage to lines/wiring, ensure sufficient clearance to all moving or hot components.

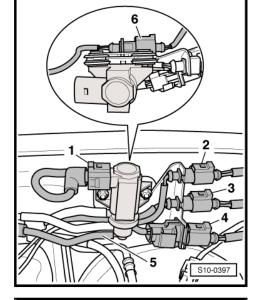
Observe all safety measures and notes for assembly work on the fuel supply and injection system, at the charge air system and observe as well the rules for cleanliness

⇒ "3.1 Rules of cleanliness", page 7

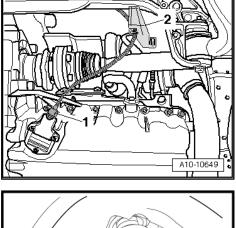
- If present, take the adapter for the anti-theft wheel bolts out of the luggage compartment.
- Disconnect the battery-earth strap with the ignition off ⇒ Electrical System; Rep. gr. 27.
- Remove engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11.
- Remove air filter housing with air mass meter G70- and intake AUTO A. S. does not guarantee or accept any liability hose ⇒ "3.5 Removing and installing air filter", page 479.
- Remove battery and battery tray ⇒ Electrical System; Rep. gr. 27.

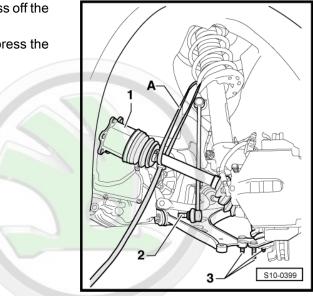


- Unplug the following plug connections at the bulkhead:
- 2 Exhaust gas temperature sender 4 G648- (Temperature sender downstream particle filter G527-)
- 3 Exhaust gas temperature sender 1 G235- (Temperature sender upstream of turbocharger G507-)
- 4 Lambda probe G39-
- 6 Exhaust gas temperature sender 3 G495-
- Pull off the vacuum hose -5- from the charge pressure control solenoid valve - N75- .
- Remove pre-exhaust pipe with diesel particle filter
 ⇒ "1.6 Removing and installing pre-exhaust pipe",
 page 525.



- Disconnect electrical plug connection -1- at the oil level and oil temperature sender - G266- .
- Remove bracket -2- for the wiring harness of the oil level and oil temperature sender - G266- from the assembly carrier and place down on the assembly carrier.
- Remove the right and left wheelhouse liner bottom part ⇒ Body Work; Rep. gr. 66.
- Unscrew the left drive shaft from the flange shaft of the gearbox ⇒ Chassis; Rep. gr. 40.
- Unscrew the nut from the left coupling rod -2- and press off the coupling rod from the anti-roll bar.
- Unscrew the nuts from the left steering joint -3- and press the steering joint out of the suspension arm.

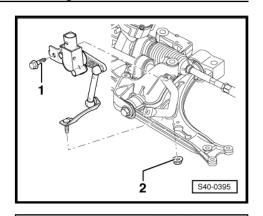


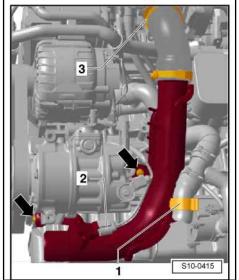




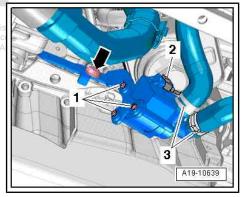
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- Unscrew the nut -2- from the front left track control arm on installed front left vehicle level sensor -G78-.
- Turn the steering to full left lock.
- Swivel the steering joint outwards and secure the drive shaft -1- with a band -A- in the wheelhouse.
- Insert a pin screw in the suspension arm in order to stabilize the steering joint.
- Remove radiator ⇒ "4.4 Removing and installing radiator", page 301.
- Unscrew screws -arrows-.
- Detach coolant hose -1-.
- Loosen hose clamp -3-.
- Disconnect the plug -2- at the charge pressure sender G31-with intake air temperature sender G42- and remove the right charge air pipe.

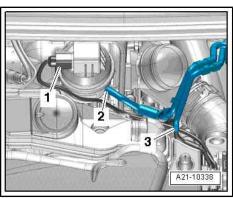




Unscrew screw -arrow- and push the coolant recirculation pump 2 PrV178 by to the side ing for private or commercial purposes, in part or in whole, unless authorised by SKODA AUTO A. S. SKODA AUTO A. S. does not guarantee or accommendation of the state of th

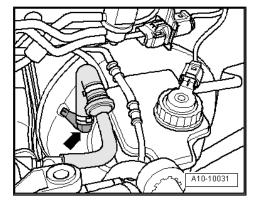


- Remove vacuum hose -2- from vacuum setting element of exhaust turbocharger.
- Disconnect vacuum hose -3-.

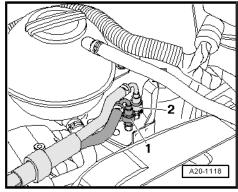




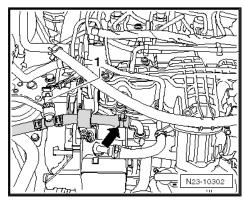
- Remove the vacuum hose -arrow- from the brake servo unit.



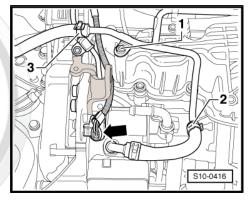
 Detach fuel feed line -2- and fuel return-flow line -1-, to do so press in securing ring. Unlock the quick coupling and disconnect ⇒ "2.10 Separating push-on couplings", page 343



- Disconnect the plug connection -1- at the differential pressure transmitter - G81- .
- Separate the fuel feed line and pull it off, to do so slacken the hose clamp -arrow-.



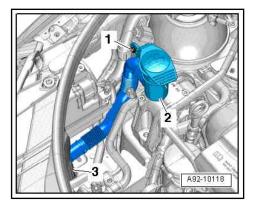
 Separate the fuel return-flow line and pull it off, to do so slacken the hose clamp -3-.





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- Unscrew bolt -1-.
- Push the filler tube with the filler neck -2- for the washer-fluid reservoir to the side.



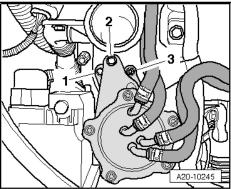
- Release screw -1- by two turns.
- Release screw -2- and nut -3-.
- Unclip bracket for coolant line at fuel filter.
- Remove the fuel filter with the hoses connected and the bracket together with the additional fuel pump - V393-.
- Remove V-ribbed belt ⇒ "1 Removing and installing a V-ribbed belt and a toothed belt", page 60

On vehicles with air conditioning



WARNING

Do not open the refrigerant circuit of the air conditioning sys-

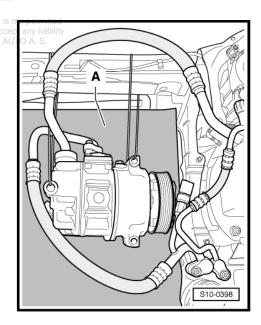




Note

In order to avoid damage to the AC compressor as well as to the refrigerant lines and hoses, ensure that the lines and hoses are not over-tensioned, kinked or bent.

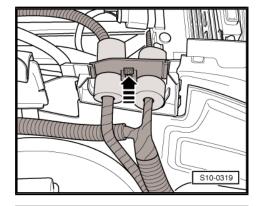
Remove the AC compressor from the bracket for auxiliary units, place a cardboard +A- underneath the charge air cooler DA AL for protection and secure the AC compressor with connected refrigerant hoses to the lock carrier.





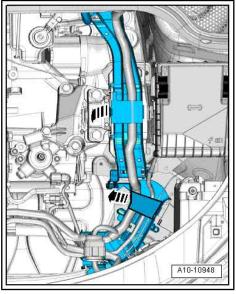
Continued for all vehicles

- Unlatch the fuse and disconnect the front plug from the engine control unit
 - ⇒ "4.1 Removing and installing engine control unit J623", page
- Release duct for engine wiring harness -arrow- and pull out upwards.

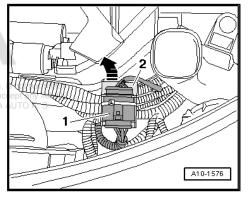


Open the cable guides -arrows-, remove the engine wiring harness and place down to the side.





- Expose the plug connection -1- and disconnect it.
- Open the bracket -2- lying below the cable guide.
- With the unlocking tool, e.g. -T10236-, remove the wiring harness for the engine control unit from the wiring and place it on the engine by copyright. Copying for private or commercial purposes, in part or in whole unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or a

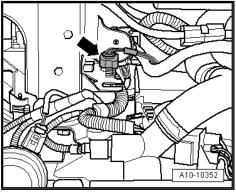


Disconnect plug connection -arrow- at the bottom left frame side rail.

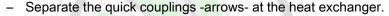


Note

For purposes of presentation, the fitting position is shown from below.



- Remove the cable strap of the -arrow- protective cover, if present.
- Unbolt earth cable -1-.
- Disconnect plug connection -2-.
- Pull back the protective cover and unscrew the B+ cable from the bracket of the solenoid switch for the starter.
- Disconnect further necessary plug connections at the engine and gearbox or line connections to engine and gearbox.



Pull off coolant hose at the top and bottom of the coolant expansion reservoir.

Vehicles with auxiliary heating

Disconnect coolant hoses at auxiliary heating system.

Vehicles fitted with a manual gearbox

- Remove shift mechanism from gearbox ⇒ Gearbox; Rep. gr. 34 .
- Remove pressure line from breather/slave cylinder ⇒ Gearbox; Rep. gr. 30.



Caution

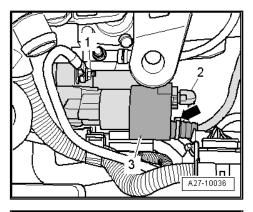
After separating the hydraulic line, do not operate the clutch pedal.

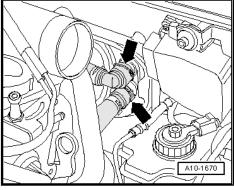
Vehicles with automatic gearbox document. Copyright by SKODA AUTO A. S.

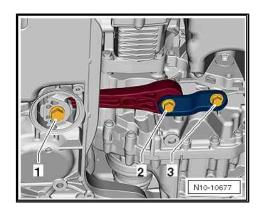
Remove shift mechanism from gearbox ⇒ Automatic Gearbox; Rep. gr. 34.

Continued for all vehicles

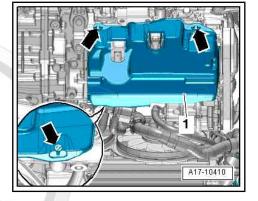
- Unclamp all remaining connecting, coolant, vacuum and suction hoses from the engine.
- Release all remaining plugs at engine and gearbox and lay aside the relevant lines.
- Unscrew screw -1- and remove pendulum support.







 Remove noise insulation of oil pan -1-, to do so slacken the fixing parts -arrows-.



- Screw engine mount T10012- to the cylinder block with nut
 -2- and screw -1- to 20 Nm.
- Insert the engine and gearbox jack, e.g. -V.A.G 1383 A- or -VAS 6931- into the engine mount and raise it slightly.



Note

Use double ladder to release the screws for the engine/gearbox mounting.

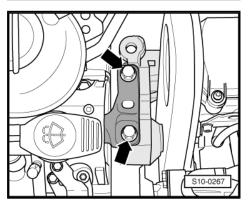
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T10012

V.A.G 1383A

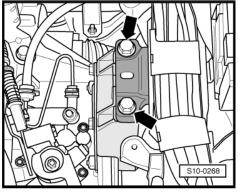
Shot guarantee or accept an Highlight Scopyright T10012 AUT 0 1 Sinot guarantee or accept an Highlight Sinot guarantee or accept and Highlight Sinot gu

Successively release screws for engine mounting -arrows-.



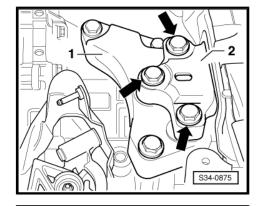
For the vehicles Octavia II

 Successively unscrew screws for gearbox mount at gearbox 0A4 -arrows- or ...

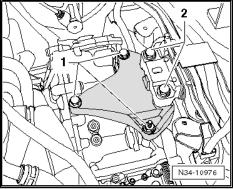




... at gearbox 02Q -arrows- or ...



at gearbox 0AM -2- by hand.



For the vehicles Superb II, Yeti

Successively release screws for gearbox mounting -arrows-.

Continued for all vehicles



Note

- Check whether all hose and line connections between engine, gearbox and body are released.
- When lowering carefully guide the engine with the gearbox, in order to avoid damagé.
- Carefully lower engine with gearbox. During this procedure, turn or move the engine with the gearbox depending upon the constriction.
- Remove the gearbox from the engine.

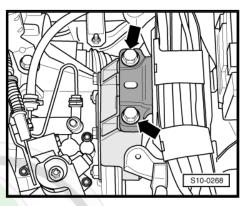
1.3 Securing the engine to the assembly stand

Special tools and workshop equipment required

- ♦ Workshop crane , e.g. -VAS 6100-
- ◆ Engine and gearbox mount VAS 6095-
- ◆ Lifting device MP9-201 (2024A)-

Attachment to engine and gearbox mount - VAS 6095-

Separate engine from gearbox.





Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

 Attach lifting device - MP9-201 (2024A)- at engine and at workshop crane e.g. -VAS 6100- .

On the belt pulley side:

♦ 2nd hole of the extension in Position 1

On the flywheel side:

♦ 4th hole of the extension in Position 8



Note

The illustration shows a pump injector engine. The attachment for the Common Rail engine occurs in the same way.

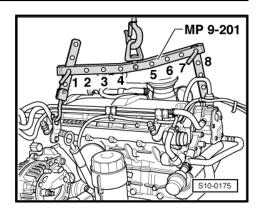


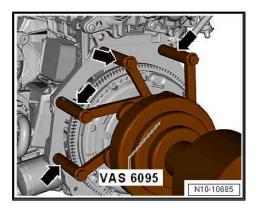
WARNING

Use securing pins on the hooks and rig pins to prevent release.

Use securing pins on the hooks and rig pins in order to avoid injuries and damage to the engine.

- Lift engine with assembled engine mount T10012- out of the engine/gearbox jack using the workshop crane.
- Remove engine mount T10012- .
- Secure engine using bolts -arrows- to the engine and gearbox mount - VAS 6095- .





1.4 Installing engine

⇒ "1.4.1 Install engine, Fabia II, Roomster, Rapid India, Rapid NH" page 30 ight. Copying for private or commercial purposes, in part or in whole, is not permitte

⇒ "1.4.2 Install engine, Octavia II, Superb II, Yeti", page 34 AUTO A.S.

1.4.1 Install engine, Fabia II, Roomster, Rapid India, Rapid NH

Special tools and workshop equipment required

♦ Grease - G 000 100- for manual gearbox

Condition

 Engine and gearbox installed using engine mount to the engine/gearbox jack.

Assembly is carried out in the reverse order. When installing, observe the following:





- Observe all safety measures and notes for assembly work on the fuel supply and injection system, at the charge air system and observe as well the rules for cleanliness "3.1 Rules of cleanliness". page 7
- When undertaking assembly replace self-locking nuts and screws which have been tightened to a torquing angle.
- Always replace gasket rings and seals.
- Fit all cable straps on again in the same place when installing.
- Secure all hose connections with corresponding hose clamps ⇒ ETKA - Electronic Catalogue of Original Parts .



Caution

When undertaking all installation work, particularly in the engine compartment due to its cramped construction, please observe the following:

- ◆ Lay lines of all kinds (for example, for fuel, hydraulic fluid, cooling fluid and refrigerant, brake fluid, vacuum) and electrical lines in such a way that the original line guide is re-established.
- To avoid damage to lines/wiring, ensure sufficient clearance to all moving or hot components.

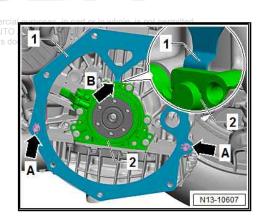


Note

- Clean the serration of the drive shaft and if the clutch disc has been used clean the hub serration, remove corrosion and only apply a very thin layer of grease - G 000 100- on the serration. Then move clutch plate to and fro on input shaft until hub moves freely on shaft. Always remove excess grease.
- ◆ After installing the coupling, check the centering of the clutch disc ⇒ Gearbox; Rep. gr. 30.
- Check the clutch release bearing for wear. Replace release bearing if worn ⇒ Gearbox; Rep. gr. 30.
- Check whether the dowel sleeves for centring the engine/ gearbox are present in the cylinder block; insert if necessary.

Ensure that the intermediate plate has been inserted on the sealing flange arrow -B- and is pushed onto the dowel sleeves arrows

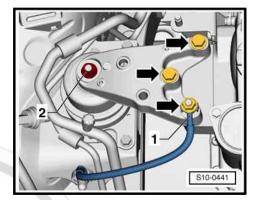
- Screw on gearbox to engine ⇒ Gearbox; Rep. gr. 34.
- Insert engine with gearbox into the body.





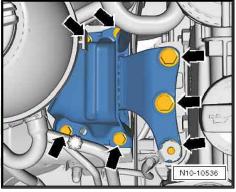
For vehicles Fabia II, Roomster, Rapid NH

Successively screw in screws for engine mounting -arrows- by



For Rapid India vehicles

Successively screw in screws for engine mounting -arrows- by hand.



Continued for all vehicles

- Successively screw in screws for gearbox mount -arrows- by hand.
- Remove engine mount T10012- from engine.

For vehicles Fabia II, Roomster, Rapid NH with engine identification characters CAYB, CAYC

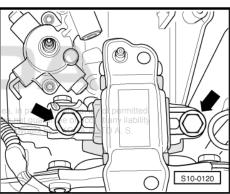
Install pre-exhaust pipe with diesel particle filter ⇒ "1.6 Removing and installing pre-exhaust pipe", page 525

For vehicles Rapid India, Rapid NH with engine identification characters CLNA

Install exhaust pipe with catalytic converter ⇒ "1.6 Removing and installing pre-exhaust pipe", page 525.

For Rapid India vehicles

Install the assembly carrier ⇒ Chassis; Rep. gr. 40.



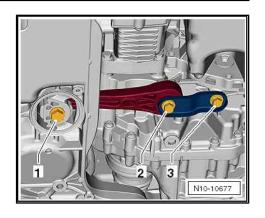


Continued for all vehicles

- Screw on pendulum support with new screws -2- and -3- at gearbox and then tighten with new screw -1- at assembly car-
- Install the left as well as the right drive shaft ⇒ Chassis; Rep. gr. 40.
- Install the slave cylinder, if necessary bleed the clutch control ⇒ Gearbox; Rep. gr. 30 .
- Attach the shift mechanism to the gearbox and adjust ⇒ Gearbox; Rep. gr. 34.
- Install AC compressor at the bracket for auxiliary units ⇒ "1.1 Assembly overview - V-ribbed belt", page 60.
- Install generator ⇒ Electrical System; Rep. gr. 27.
- Install the V-ribbed belt ⇒ "1.3 Removing and installing V-ribbed belt", page 74.
- Connect all hoses to the engine.
- Connect electrical connections and attach cables ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.
- Carry out cohesive work when reconnecting the battery ⇒ Electrical System; Rep. gr. 27.
- Top up coolant ⇒ "1.2 Draining and filling coolant", page 236
- Checking the oil level:
- ⇒ Maintenance; Booklet Fabia II.
- ⇒ Maintenance ; Booklet Roomster .
- ⇒ Maintenance ; Booklet Rapid Indie .
- ⇒ Maintenance ; Booklet Rapid NH .
- Install the left and right wheelhouse liner ⇒ Body Work; Rep. gr. 66 .
- Install the noise insulation ⇒ Body Work; Rep. gr. 50.
- Filling and bleeding the fuel system ⇒ "1.3 Filling/bleeding the fuel system", page 429
- Check fuel system for tightness ⇒ "2.9 Check the fuel system for tightness", page 457
- Perform a test drive.
- Query all fault memories, rectify any faults and delete fault memories ⇒ Vehicle diagnostic tester.

Tightening torques

Component		Nm
Screws or nuts	M6	10
	M7	15
	M8	20
	M10	40
	M12	70
Engine/gearbox connecting screw Gearbox; Rep. gr. 34	ws ⇒	





1.4.2 Install engine, Octavia II, Superb II, Yeti

Special tools and workshop equipment required

- ♦ Grease G 000 100- for manual gearbox
- High temperature grease G 052 133 A2- for automatic gearbox

Condition

Engine and gearbox installed using engine mount to the engine/gearbox jack.

Assembly is carried out in the reverse order. When installing, observe the following:



Note

- ◆ Observe all safety measures and notes for assembly work on the fuel supply and injection system, at the charge air system and observe as well the rules for cleanliness ⇒ "3.1 Rules of cleanliness", page 7.
- ♦ Replace self-locking nuts.
- Replace screws which have been tightened to torquing angle.
- ♦ Always replace gasket rings and seals.
- All cable straps should be fastened again in the same place when installing.
- ♦ Secure all hose connections with corresponding hose clamps ⇒ ETKA Electronic Catalogue of Original Parts .



Caution

When undertaking all installation work, particularly in the engine compartment because of its cramped construction, please observe the following:

- Lay lines of all kinds (for example, for fuel, hydraulic fluid, cooling fluid and refrigerant, brake fluid, vacuum) and electrical lines in such a way that the original line guide is re-established.
- ◆ To avoid damage to lines/wiring, ensure sufficient clearance to all moving or hot components.

For vehicles with manual gearbox



Note

- ♦ Clean the serration of the drive shaft and if the clutch disc has been used clean the hub serration, remove corrosion and only apply a very thin layer of grease G 000 100- on the serration. Then move clutch plate to and fro on input shaft until hub moves freely on shaft. Always remove excess grease.
- ◆ After installing the coupling, check the centering of the clutch disc ⇒ Gearbox; Rep. gr. 30.
- ◆ Check the clutch release bearing for wear. Replace release bearing if worn ⇒ Gearbox; Rep. gr. 30.



N13-10607

For vehicles with automatic gearbox DSG

 Replace the needle bearing -arrow- in the crankshaft ⇒ "3.3 Replace needle bearing for crankshaft", page 139



Note

Lubricate needle bearing and drive shaft pin with a thin layer of high temperature grease - G 052 133 A2-. Do not grease the serration of the drive shaft.

N34-10979

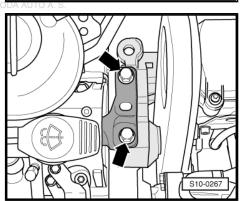
Continued for all vehicles

Check whether the dowel sleeves for centring the engine/ gearbox are present in the cylinder block; insert if necessary.

Ensure that the intermediate plate has been attached to the sealing flange arrow -B- and has contact with the dowel sleeves arrows -A-.

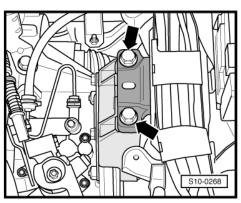
- Screw on gearbox to engine ⇒ Gearbox; Rep. gr. 34.
- Insert engine with gearbox into the body.

Successively screw in screws for engine mounting -arrows- by hand.



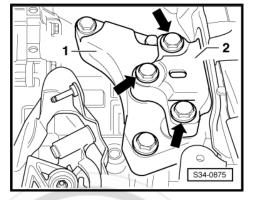
For the vehicles Octavia II

Successively screw in by hand the screws for gearbox mount -arrows- at gearbox 0A4 -arrows- or ...

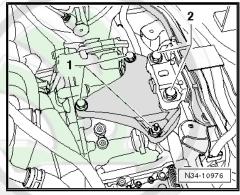




... at gearbox 02Q -arrows- or ...



at gearbox 0AM -2- by hand.

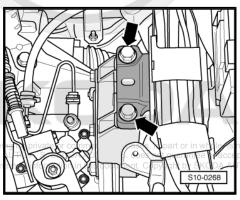


For the vehicles Superb II, Yeti

Successively screw in screws for gearbox mount -arrows- by hand.

Continued for all vehicles

- Align engine and gearbox mount and tighten screws:
- Octavia II, Yeti ⇒ "1.6.2 Checking and adjusting the assembly bracket, Octavia II, Yeti", page 44 . Protected by copyright
- Superb II ⇒ "1.6.1 Checking and adjusting the assembly bracket, Superb II", page 42
- Remove engine mount T10012- from engine.
- Install pre-exhaust pipe with diesel particle filter ⇒ "1.6 Removing and installing pre-exhaust pipe", page 525.





- Screw on pendulum support with new screws -2- and -3- at gearbox and then tighten with new screw -1- at assembly car-
- Install the left as well as the right drive shaft ⇒ Chassis; Rep. gr. 40.

For vehicles with manual gearbox

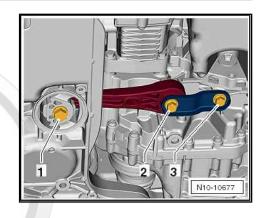
- Connect hydraulic line to breather/clutch slave cylinder and bleed the clutch hydraulic ⇒ Gearbox; Rep. gr. 30.
- Attach the shift mechanism to the gearbox and adjust ⇒ Gearbox; Rep. gr. 34.

For vehicles with automatic gearbox

Attach the shift mechanism to the gearbox ⇒ Automatic Gearbox; Rep. gr. 34.

Continued for all vehicles

- Install AC compressor at the bracket for auxiliary units ⇒ "1.1 Assembly overview - V-ribbed belt", page 60.
- Install the V-ribbed belt ⇒ "1.3 Removing and installing V-ribbed belt", page 74.
- Install radiator ⇒ "4.4 Removing and installing radiator", page 301.
- Install fan shroud with radiator fans ⇒ "4.3 Removing and installing fan shroud with radiator fan ", page 298, to do so ensure adequate clearance of the blower, in part or in whole, is not permitted motors.
- Connect all connecting, fuel, cooling fluid, vacuum and suction hoses to the engine.
- Connect electrical connections and attach cables ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.
- Carry out cohesive work when reconnecting the battery ⇒ Electrical System; Rep. gr. 27.
- Install bulkhead plenum chamber and plenum chamber cover ⇒ Body Work; Rep. gr. 66.
- Install windscreen wiper arms ⇒ Electrical System; Rep. gr.
- Top up coolant "1.2 Draining and filling coolant", page 236
- Checking the oil level:
- ⇒ Maintenance ; Booklet Octavia II .
- ⇒ Maintenance; Booklet Superb II.
- ⇒ Maintenance ; Booklet Yeti .
- Install the bottom part of the right and left wheelhouse liner ⇒ Body Work; Rep. gr. 66.
- Install the noise insulation ⇒ Body Work; Rep. gr. 50.
- Filling and bleeding the fuel system \Rightarrow "1.3 Filling/bleeding the fuel system", page 429.
- Check fuel system for tightness ⇒ "2.9 Check the fuel system for tightness", page 457
- Perform a test drive.
- Query all fault memories, rectify any faults and delete fault memories ⇒ Vehicle diagnostic tester.





Tightening torques

Component		Nm
Screws or nuts	M6	10
	M7	15
	M8	20
	M10	40
	M12	70
Engine/gearbox connecting screws ⇒ Gearbox; Rep. gr. 34		

1.5 Assembly bracket

- ⇒ "1.5.1 Assembly bracket, Fabia II, Roomster, Rapid NH", page 38
- ⇒ "1.5.2 Assembly mountings, Octavia II", page 39
- ⇒ "1.5.3 Assembly mountings, Superb II, Yeti", page 40
- ⇒ "1.5.4 Assembly mountings, Rapid India", page 41

1.5.1 Assembly bracket, Fabia II, Roomster, Rapid NH

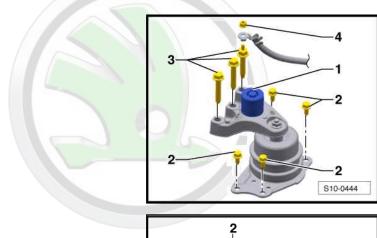
Tightening torques

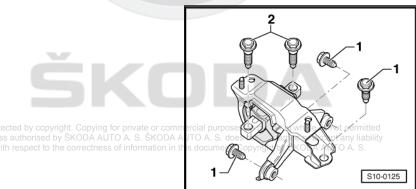
Engine mount

- 1 not fitted on this type of engine
- 2 20 Nm + 90° replace
- 3 30 Nm + 90° replace
- 4 16 Nm

Gearbox mount

- 1 50 Nm + 90° replace
- 2 40 Nm + 90° replace







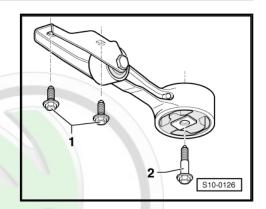
Pendulum support



Note

Position the screws -1- in the elongated holes of the pendulum support in such a way that there is maximum distance between the gearbox and the assembly carrier.

- 30 Nm + 90° replace
- 40 Nm + 90° replace



1.5.2 Assembly mountings, Octavia II

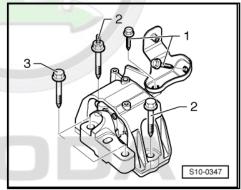
Tightening torques

Assembly bracket

 $1 = 20 \text{ Nm} + 90^{\circ} - \text{replace}$

 $2 = 40 \text{ Nm} + 90^{\circ} - \text{replace}$

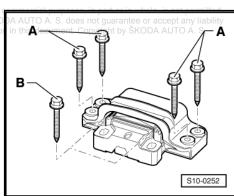
 $3 = 60 \text{ Nm} + 90^{\circ} - \text{replace}$



Assembly bracket gearbox 0A4 and 0AMess authorised by ŠKODA AUTO A. S. ŠKOWith respect to the correctness of information

A - 40 Nm + 90° - replace

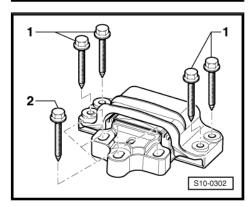
B - 60 Nm + 90° - replace



Assembly bracket gearbox 02Q

 $1 = 40 \text{ Nm} + 90^{\circ} - \text{replace}$

 $2 = 60 \text{ Nm} + 90^{\circ} - \text{replace}$



Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

Pendulum support

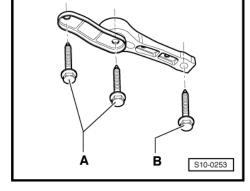
A - strength class 8.8 - 40 Nm + 90° - replace

A - strength class 10.9 1) - 50 Nm + 90° - replace

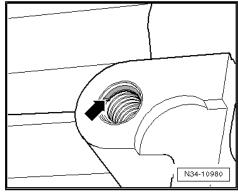
B - 100 Nm + 90° - replace

Remove: First remove screw -B-, then screws -A-.

Install: First tighten screws -A-, then screw -B-.



¹⁾ On manual gearbox MQ350 (02Q), only use the screws with the strength category 10.9 if threaded inserts have been installed (e.g. HeliCoil) -arrow-.



1.5.3 Assembly mountings, Superb II, Yeti

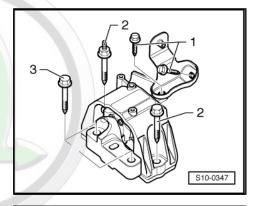
Tightening torques

Assembly bracket

 $1 = 20 \text{ Nm} + 90^{\circ} - \text{replace}$

 $2 = 40 \text{ Nm} + 90^{\circ} - \text{replace}$

 $3 = 60 \text{ Nm} + 90^{\circ} - \text{replace}$



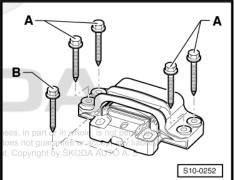
Gearbox mount

A - 40 Nm + 90° - replace

B - 60 Nm + 90° - replace



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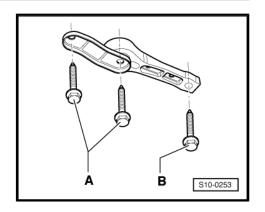
Pendulum support

A - strength class 8.8 - 40 Nm + 90° - replace

A - strength class 10.9 1) - 50 Nm + 90° - replace

B - 100 Nm + 90° - replace

Remove: First remove screw -B-, then screws -A-. Install: First tighten screws -A-, then screw -B-.



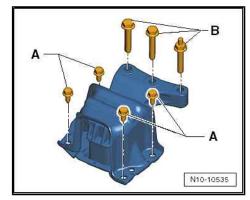
Assembly mountings, Rapid India 1.5.4

Tightening torques

Engine mount

A - 20 Nm + 90° - replace

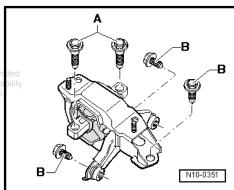
B - 30 Nm + 90° - replace



Gearbox mount

A - 40 Nm + 90° - replace

B - 40 Nm + 90° - replace



Pendulum support



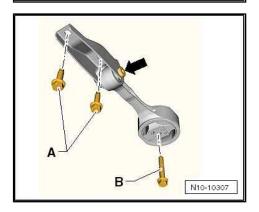
Note

Position the screws -A- in the elongated holes of the pendulum support in such a way that there is maximum distance between the gearbox and the assembly carrier.

A - 30 Nm + 90° - replace

B - 40 Nm + 90° - replace

-arrow- - the screw must not be loosened





1.6 Checking and adjusting the assembly bracket

⇒ "1.6.1 Checking and adjusting the assembly bracket, Superb II", page 42

⇒ "1.6.2 Checking and adjusting the assembly bracket, Octavia II, Yeti", page 44

1.6.1 Checking and adjusting the assembly bracket, Superb II

Special tools and workshop equipment required

- ♦ Supporting device MP9-200 (10-222A)-
- ◆ Adapter MP9-200/3 (10-222A/3)-
- ♦ Support T10311-

or

- Engine mount T10012-
- ♦ Engine and gearbox jack, e.g. -V.A.G 1383 A- or -VAS 6931-

Checking the assembly bracket

Check dimensions on the right hanger for engine/gearbox unit:

- Between engine bracket and engine support there must be a distance -a- of 10 ... 13 mm.
- The cast iron edge on the engine support -2- must be parallel to the supporting arm -1- the dimension -x- must be the same at the front and rear.



Note

The distance -a- can be checked, for example with suitable round bars.

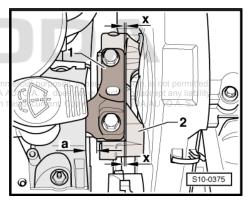
Only if there is an acoustic complaint (engine or gearbox knock on the frame side rail when cornering) and the dimension -a- is not 10...13 mm:

Adjust the assembly bracket ⇒ page 42.

Adjusting the unit mounting

Condition

- Engine with gearbox supported with supporting device -MP9-200 (10-222A)- and adapter - MP9-200/3 (10-222A/3)or engine with gearbox supported with engine mount and engine/gearbox jack.
- Remove battery and battery tray ⇒ Electrical System; Rep. gr. 27.
- Remove the front stop buffers for the front flap from both upper edges of the wings at the front.





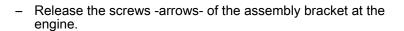
- Insert the wing plate T10311- on the right vehicle side -A- in the -direction of the arrow- up to the stop. When doing this, the arrow -R- on the wing plate - T10311- points to the rear.
- Also insert the wing plate T10311- on the left vehicle side -B- in the -direction of the arrow- up to the stop. When doing this, the -arrow L- on the wing plate - T10311- points to the rear.



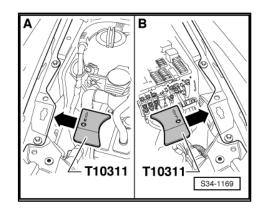
The wing plates - T10311- ensure that the wings do not get damaged through the weight of the engine/gearbox unit.

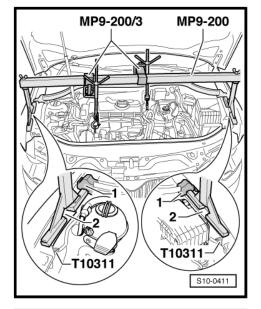
- Position the supporting device MP9-200 (10-222A)- with the adapters - MP9-200/3 (10-222A/3)- and support the engine/ gearbox unit in its installed position.
- The feet of the supporting device MP9-200 (10-222A)- must be pushed as shown in the illustration up to the stop buffers
 -1- and placed on the wheelhouse frame side rail at the top
- Uniformly pre-tension the engine/gearbox unit with both spindles, but do not raise.

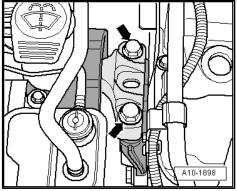
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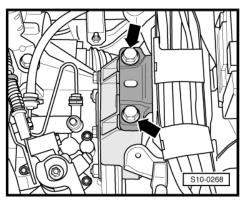


- Slightly loosen the screws -arrows- of the assembly bracket at the gearbox (less than 1 revolution).
- Successively replace all the screws of the assembly bracket (as long as it has not already been performed when installing the engine) and insert these loosely.









- Move the engine/gearbox assembly with an assembly lever between engine support -2- and supporting arm -1- for engine mount until the following dimensions are set:
- Between engine bracket and engine support there must be a distance -a- of 10 mm.
- The cast iron edge on the engine support -2- must be parallel to the supporting arm -1- the dimension -x- must be the same at the front and rear.



The distance -a- = 10 mm can be checked e.g. with corresponding round bars.

- Tighten screws for engine assembly bracket.

Further installation occurs in reverse order.

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

♦ Assembly bracket ⇒ "1.5.3 Assembly mountings, Superb II, Yeti", page 40.

1.6.2 Checking and adjusting the assembly bracket, Octavia II, Yeti mmercial purposes, in part of the control o

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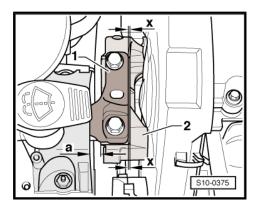
Special tools and workshop equipment required document. Copyright by ŠKODA AUTO A. S.

♦ Supporting device - T30099-

- ♦ Washer T30099/1-
- ◆ Adapter MP9-200/3 (10-222A/3)-

or

- ♦ Engine mount T10012-
- ◆ Engine and gearbox jack, e.g. -V.A.G 1383 A- or -VAS 6931-





Checking the assembly bracket

Check dimensions on the right hanger for engine/gearbox unit:

- Between engine bracket and engine support there must be a distance -a- of 10 mm.
- The cast iron edge on the engine support -2- must be parallel to the supporting arm -1- the dimension -x- must be the same at the front and rear.



Note

The distance -a- can be checked, for example with suitable round bars.

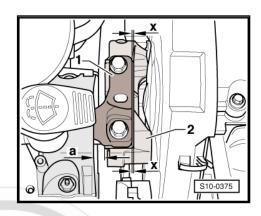
Only if there is an acoustic complaint (engine or gearbox knock on the frame side rail when cornering) and the dimension -a- is not 10 mm:

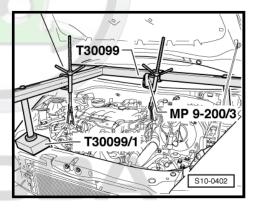
Adjust the assembly bracket ⇒ page 45.

Adjusting the unit mounting

Condition

 Engine and gearbox held by supporting device - T30099-, supporting plate - T30099/1- and adapter - MP9-200/3 (10-222A/3)- or engine and gearbox supported by engine mount and engine/engine/gearbox jack.





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Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

The following dimensions -a- and -x- must be maintained:

- Between engine bracket and engine support there must be a distance -a- = 10 mm.
- The cast iron edge on the engine support -2- must be parallel to the supporting arm -1- the dimension -x- must be the same at the front and rear.



Note

The distance -a- = 10 mm can be checked, for example with suitable round bars.

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- Assembly bracket, Octavia II
 ⇒ "1.5.2 Assembly mountings, Octavia II", page 39
- ◆ Assembly bracket (Yeti)
 ⇒ "1.5.3 Assembly mountings, Superb II, Yeti", page 40 .

1.7 Removing and installing engine support

⇒ "1.7.1 Removing and installing engine support, Fabia II, Roomster, Rapid India, Rapid NH", page 46

⇒ "1.7.2 Removing and installing engine support bracket, Superb II", page 51

⇒ "1.7.3 Removing and installing engine support bracket, Octavia II, Yeti", page 55

1.7.1 Removing and installing engine support, Fabia II, Roomster, Rapid India, Rapid NH

For vehicles Fabia II, Roomster, Rapid India

Special tools and workshop equipment required

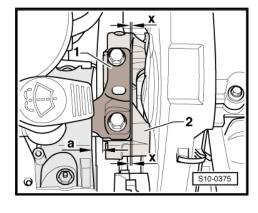
◆ Supporting device - MP9-200 (10-222A)-

For vehicles Rapid NH

Special tools and workshop equipment required

- Supporting device T30099-
- Washer T30099/1-
- ♦ Adapter MP9-200/3 (10-222A/3)-

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Removing



Caution

When undertaking all installation work, particularly in the engine compartment due to its cramped construction, please observe the following:

- Lay lines of all kinds (for example, for fuel, hydraulic fluid, cooling fluid and refrigerant, brake fluid, vacuum) and electrical lines in such a way that the original line guide is re-established.
- To avoid damage to lines/wiring, ensure sufficient clearance to all moving or hot components.



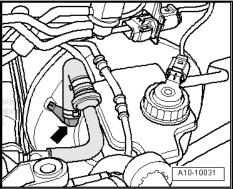
Note

- ♦ Safety precautions when working on the fuel supply system ⇒ "2 Safety instructions", page 3.
- ♦ Observe rules for cleanliness ⇒ "3.1 Rules of cleanliness", page 7.
- Switch off ignition and pull out ignition key.
- Remove engine cover
 ⇒ "1.1 Removing and installing engine trim panel", page 11.

For Fabia II, Roomster vehicles

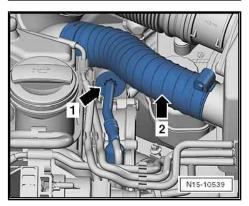
- Remove vacuum line from brake servo unit -arrow-.





For vehicles Rapid India, Rapid NH

 Disconnect vacuum line behind the holder at the cylinder head -arrow 1-.





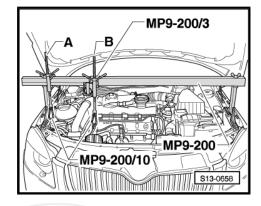
For vehicles Fabia II, Roomster, Rapid India

 Install supporting device - MP9-200 (10-222A)- and support the engine with spindle -B- in fitting position. Allow spindle -A- to hang loosely.



Note

- ◆ The assembly bracket must only be removed if the engine is supported with the supporting device - MP9-200 (10-222A)-!
- Only release the engine support if the assembly bracket is removed



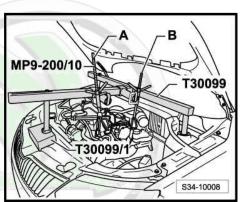
For vehicles Rapid NH

- Remove the cooling water tank cover ⇒ Body Work; Rep. gr. 50 .
- Position the supporting device T30099- with the base -T30099/1- and the adapter - MP9-200/3 (10-222A/3)- and support the engine with spindle -A- in its installed position. Allow spindle -B- to hang loosely.



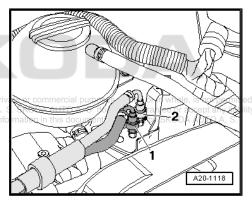
Note

- The assembly bracket must only be removed if the engine is supported with the supporting device - T30099-!
- Only release the engine support if the assembly bracket is removed.



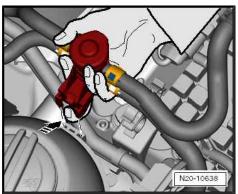
Continued for all vehicles

- Remove the front right wheelhouse liner ⇒ Body Work; Rep. gr. 66.
- Separate fuel feed line -2- and fuel return-flow line -1-, to do so press the release buttons. Unlock the quick coupling and disconnect
 Protected by copyright. Copying for positive couplings of protected by Copyright. Separating push-on couplings of protected by Copyrights.
- Collect the fuel which flows out with a cloth.



For vehicles Fabia II, Roomster, Rapid NH

 Unlock the catch peg with a finger and pull the fuel preheating valve upwards out of the guide of the coolant expansion bottle.

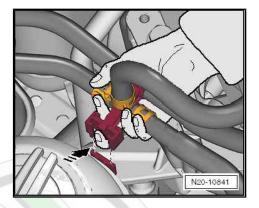




N20-10636

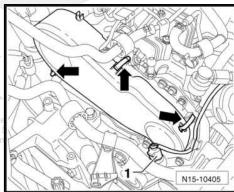
For Rapid India vehicles

Unlock the catch peg with a finger and pull the T-piece upwards out of the guide from the coolant expansion bottle.



Continued for all vehicles

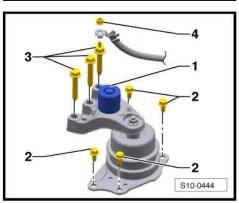
- Unclip the fuel line from the plastic holders.
- Push the catch pegs up and remove the fuel filter towards the top.
- Place the fuel filter and the fuel hoses together with the fuel preheating valve on the engine.
- Remove fuel filter bracket.
- Slacken the coolant expansion bottle in such a way that there is sufficient space for the removal of the engine support.
- Remove top part of toothed belt guard; to do so release retaining clips -arrows-.
- Remove the earth connection from the assembly bracket.



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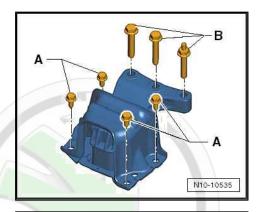
For vehicles Fabia II, Roomster, Rapid NH

 Release fixing screws of assembly bracket/engine support -3-, assembly bracket/body -2- and remove the complete assembly bracket.



For Rapid India vehicles

Release fixing screws of assembly bracket/engine support
 -B-, assembly bracket/body -A- and remove the complete assembly bracket.



Continued for all vehicles

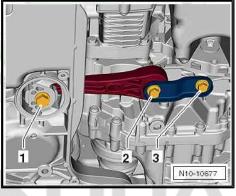
Undo screws -1-, -2- and -3- and remove the pendulum support.



Caution

Make sure that no components/hoses are damaged, overstretched or torn off when lifting and lowering the engine with the supporting device - MP9-200 (10-222A)- if necessary -T30099-.

Pull the engine as far as possible towards the radiator.





Note

- Remove the fixing screw -1- together with the engine support.
- ◆ Raise engine and, using the spindles of the support bracket -MP9-200 (10-222A)- if applicable -T30099- in such a way that the screws -2- and -3- can be loosened and removed.
- Unscrew the fixing screws for the engine support in the sequence -3-, -2- and -1-.
- Remove the engine support upwards.



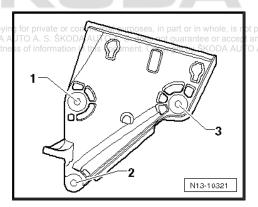


Caution

The tightening sequence and the tightening torque of the fixing screws for the engine support must definitely be respected. Otherwise stress of the engine support bracket occurs, which results in the breaking of the engine support bracket.

Installation is carried out in the reverse order. However, pay attention to the following:

Insert engine support from above.







- Install the fixing screw -1- together with the engine support.
- Raise engine and, using the spindles of the support bracket -MP9-200 (10-222A)- if applicable -T30099- in such a way that the screws -2- and -3- can be inserted and tightened.
- Tighten screws in two stages in the following sequence:

Step	Bolts	Tightening torque / torquing angle
1.	-1-, -2-, -3-	7 Nm
2.	-1-, -2-, -3-	40 Nm + 180°

- Install engine mounting with new screws.
- Tighten screws for engine mount.

Further installation occurs in reverse order. However, pay attention to the following:

- Make sure the fuel lines fit tightly.
- Do not mix-up the feed line and the return-flow line (the returnflow line is blue or has a blue marking, the feed line is black).

Tightening torques - summaries of components



Note

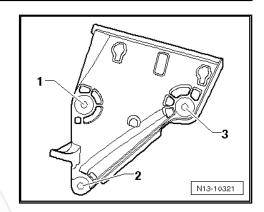
Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- Assembly bracket, Fabia II, Roomster, Rapid NH ⇒ "1.5.1 Assembly bracket, Fabia II, Roomster, Rapid NH, one by Skoda Auto A.S. page 38
- Assembly bracket, Rapid India ⇒ "1.5.4 Assembly mountings, Rapid India", page 41

1.7.2 Removing and installing engine support bracket, Superb II

Special tools and workshop equipment required

- ♦ Supporting device MP9-200 (10-222A)-
- Adapter MP9-200/3 (10-222A/3)-
- Support T10311-





Removing



Caution

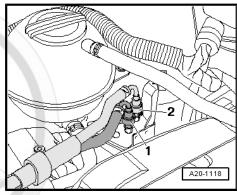
When undertaking all installation work, particularly in the engine compartment because of its cramped construction, please observe the following:

- Lay lines of all kinds (for example, for fuel, hydraulic fluid, cooling fluid and refrigerant, brake fluid, vacuum) and electrical lines in such a way that the original line guide is re-established.
- To avoid damage to lines/wiring, ensure sufficient clearance to all moving or hot components.



Note

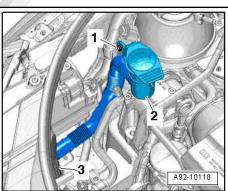
- ♦ Safety precautions when working on the fuel supply system ⇒ "2 Safety instructions", page 3.
- ◆ Observe rules for cleanliness ⇒ "3.1 Rules of cleanliness", page 7.
- Switch off ignition and pull out ignition key.
- Remove engine cover
 ⇒ "1.1 Removing and installing engine trim panel", page 11.
- Detach fuel feed line -2- and fuel return-flow line -1-, to do so press in securing ring. Unlock the quick coupling and disconnect ⇒ "2.10 Separating push-on couplings", page 343.



- Unscrew bolt -1-.
- Push the filler tube with the filler neck -2- for the washer-fluid reservoir to the side.

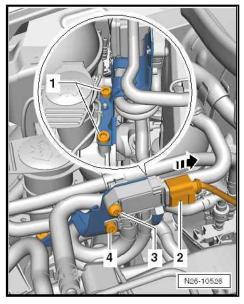


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Disconnect the plug from the differential pressure sender - G505- and unscrew the fixing screws -1-.



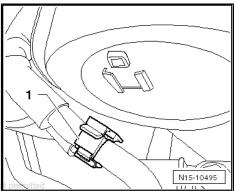
- Slacken line -1- for differential pressure sender G505- with bracket from top timing belt guard.
- Remove the bracket with the differential pressure sender -G505- and place it to the rear.



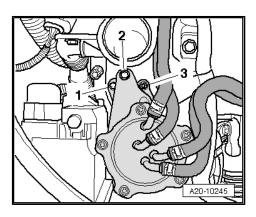
Caution

Risk of damage!

♦ The differential pressure indicator - G505- is very sensitive and must not touch somewhere when laying it down with the bracket.



- Unplug connector from expansion reservoir.
- Unscrew screw for expansion reservoir.
- Release screw -1- by two turns.
- Release screw -2- and nut -3-.
- Unclip bracket for coolant line at fuel filter.
- Lay the compensation bottle with the hoses connected and the fuel filter with the hoses connected onto the engine.
- Remove the cooling water tank cover ⇒ Body Work; Rep. gr. 66 .



Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- Insert the wing plate T10311- on the right vehicle side -A- in the -direction of the arrow- up to the stop. When doing this, the arrow -R- on the wing plate - T10311- points to the rear.
- Also insert the wing plate T10311- on the left vehicle side
 -B- in the -direction of the arrow- up to the stop. When doing this, the -arrow L- on the wing plate T10311- points to the rear.



Note

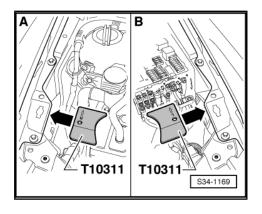
The wing plates -T10311- ensure that the wings do not get damaged through the weight of the engine/gearbox unit.

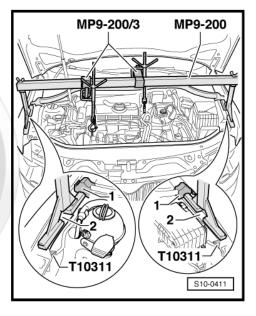
- Position the supporting device MP9-200 (10-222A)- with the adapters - MP9-200/3 (10-222A/3)- and support the engine/ gearbox unit in its installed position.
- Uniformly pre-tension the engine/gearbox unit at both spindles, do not raise.
- Remove engine mounts.
- Remove the sound dampening system ⇒ Body Work; Rep. gr. 50 .
- Remove the right wheelhouse liner bottom part ⇒ Body Work;
 Rep. gr. 66.
- Remove the coolant pipe from the engine support.



Caution

Make sure that no components as well as hoses are damaged, overstretched or torn off when lifting and lowering the engine with the supporting device - MP9-200 (10-222A)-.







Note

The fixing screw -1- is accessible through the hole in the wheel-house. If necessary, raise or lower the engine via the spindles of the supporting device - MP9-200 (10-222A)- so that the screws -2- and -3- can be removed.

- Unscrew the fixing screws for the engine support in the sequence -3-, -2- and -1-.
- Remove the engine support upwards.

Installing

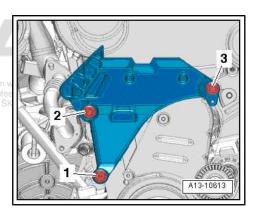


Caution

The tightening sequence and the tightening torque of the fixing screws for the engine support must definitely be respected. Otherwise stress of the engine support bracket occurs, which results in the breaking of the engine support bracket.

Installation is carried out in the reverse order. However, pay attention to the following:

Insert engine support from above.







The installation of the fixing screw -2- is possible through the hole in the wheelhouse. If necessary, raise or lower the engine via the spindles of the supporting device - MP9-200 (10-222A)- so that the screws -1- and -3- can be inserted.

Tighten screws in two stages in the following sequence:

Step	Bolts	Tightening torque / torquing angle
1.	-2-, -1-, -3-	7 Nm
2.	-2-, -1-, -3-	40 Nm + 180°

- Install engine mounting with new screws.
- Check the setting of the assembly bracket at the engine "1.6.1 Checking and adjusting the assembly bracket, Superb <u>II", page 42</u>
- Tighten screws for engine mount.

Further installation occurs in reverse order. However, pay attention to the following:

- Make sure the fuel lines fit tightly.
- Do not mix-up the feed line and the return-flow line (the returnflow line is blue or has a blue marking, the feed line is black).

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

Assembly bracket ⇒ "1.5.3 Assembly mountings, Superb II, Yeti", page 40.

1.7.3 Removing and installing engine support bracket, Octavia II, Yeti

Special tools and workshop equipment required

- Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted Supporting device⇒ ₹30099 . ŠKODA AUTO A. S. does not guarantee or accept any liability
- Washer T30099/1-
- ◆ Adapter MP9-200/3 (10-222A/3)-

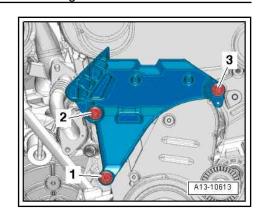
Removing



Caution

When undertaking all installation work, particularly in the engine compartment because of its cramped construction, please observe the following:

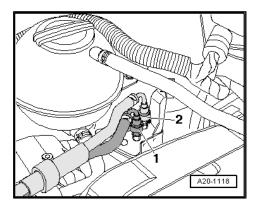
- Lay lines of all kinds (for example, for fuel, hydraulic fluid, cooling fluid and refrigerant, brake fluid, vacuum) and electrical lines in such a way that the original line guide is re-established.
- To avoid damage to lines/wiring, ensure sufficient clearance to all moving or hot components.



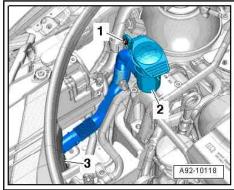




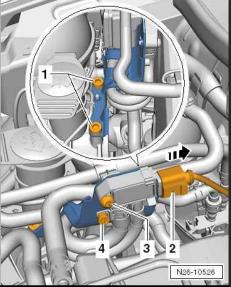
- ♦ Safety precautions when working on the fuel supply system ⇒ "2 Safety instructions", page 3.
- ◆ Observe rules for cleanliness ⇒ "3.1 Rules of cleanliness", page 7.
- Switch off ignition and pull out ignition key.
- Remove engine cover
 ⇒ "1.1 Removing and installing engine trim panel", page 11.
- Detach fuel feed line -2- and fuel return-flow line -1-, to do so press in securing ring. Unlock the quick coupling and disconnect ⇒ "2.10 Separating push-on couplings", page 343



- Unscrew bolt -1-.
- Push the filler tube with the filler neck -2- for the washer-fluid reservoir to the side.



 Disconnect the plug from the differential pressure sender -G505- and unscrew the fixing screws -1-.



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- Slacken line -1- for differential pressure sender G505- with bracket from top timing belt guard.
- Remove the bracket with the differential pressure sender -G505- and place it to the rear.



Caution

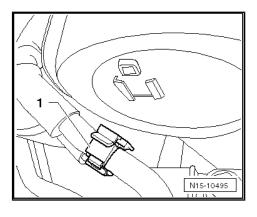
Risk of damage!

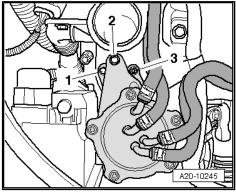
- ♦ The differential pressure indicator G505- is very sensitive and must not touch somewhere when laying it down with the bracket.
- Unplug connector from expansion reservoir.
- Unscrew screw for expansion reservoir.
- Release screw -1- by two turns.
- Release screw -2- and nut -3-.
- Unclip bracket for coolant line at fuel filter.
- Lay the compensation bottle with the hoses connected and the fuel filter with the hoses connected onto the engine.
- Remove the cooling water tank cover ⇒ Body Work; Rep. gr. 66.
- Position the supporting device T30099- with the base -T30099/1- and the adapter - MP9-200/3 (10-222A/3)- and support the engine in its installed position.
- Uniformly pre-tension the engine/gearbox unit at both spindles, do not raise.
- Remove engine mounts.
- unless Remove the sound dampening system ⇒ Body Work; Republity gr. 50.
 - Remove the right wheelhouse liner bottom part ⇒ Body Work; Rep. gr. 66.
 - Remove the coolant pipe from the engine support.

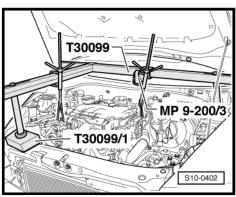


Caution

Make sure that no components as well as hoses are damaged, overstretched or torn off when lifting and lowering the engine with the supporting device - T30099-.











The fixing screw -1- is accessible through the hole in the wheel-house. If necessary, raise or lower the engine via the spindles of the supporting device - T30099- so that the screws -2- and -3-can be removed.

- Unscrew the fixing screws for the engine support in the sequence -3-, -2- and -1-.
- Remove the engine support upwards.

Installing

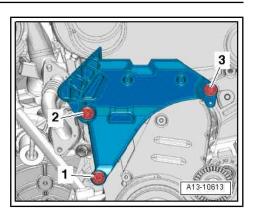


Caution

The tightening sequence and the tightening torque of the fixing screws for the engine support must definitely be respected. Otherwise stress of the engine support bracket occurs, which results in the breaking of the engine support bracket.

Installation is carried out in the reverse order. However, pay attention to the following:

Insert engine support from above.







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The installation of the fixing screw -2- is possible through the hole in the wheelhouse. If necessary, raise or lower the engine via the spindles of the supporting device - T30099- so that the screws -1- and -3- can be inserted.

Tighten screws in two stages in the following sequence:

Step	Bolts	Tightening torque / torquing angle
1.	-2-, -1- , -3-	7 Nm
2.	-2-, -1- , -3-	40 Nm + 180°

- Install engine mounting with new screws.
- Check the setting of the assembly bracket at the engine "1.6.2 Checking and adjusting the assembly bracket, Octavia II, Yeti", page 44
- Tighten screws for engine mount.

Further installation occurs in reverse order. However, pay attention to the following:

- Make sure the fuel lines fit tightly.
- Do not mix-up the feed line and the return-flow line (the returnflow line is blue or has a blue marking, the feed line is black).

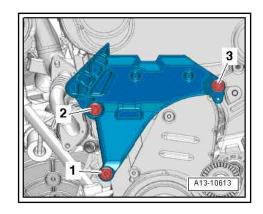
Tightening torques - summaries of components by SKODA AUTO A. S.



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- Assembly bracket, Octavia II ⇒ "1.5.2 Assembly mountings, Octavia II", page 39
- Assembly bracket (Yeti) ⇒ "1.5.3 Assembly mountings, Superb II, Yeti", page 40





13 – Crankshaft group

1 Removing and installing a V-ribbed belt and a toothed belt

- ⇒ "1.1 Assembly overview V-ribbed belt", page 60
- ⇒ "1.2 Assembly overview toothed belt drive", page 66
- ⇒ "1.3 Removing and installing V-ribbed belt", page 74
- ⇒ "1.4 Removing and installing vibration dampener", page 78
- ⇒ "1.5 Removing and installing tensioning element for V-ribbed belt", page 79
- ⇒ "1.6 Removing and installing bracket for auxiliary units", page 87
- ⇒ "1.7 Removing and installing toothed belt", page 96
- 1.1 Assembly overview V-ribbed belt
- ⇒ "1.1.1 Summary of components V-ribbed belt, vehicles without air conditioning system", page 60
- ⇒ "1.1.2 Summary of components V-ribbed belt, vehicles with air conditioning system and guide pulley", page 62
- ⇒ "1.1.3 Summary of components Vehicles with air conditioning system and tensioning element", page 64
- 1.1.1 Summary of components V-ribbed belt, vehicles without air conditioning system



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1 - Crankshaft-belt pulley

- with vibration damper
- pay attention to correct installation position <u>⇒ page 61</u>
- □ Removing and installing ⇒ "1.4 Removing and installing vibration dampener", page 78

2 - Alternator

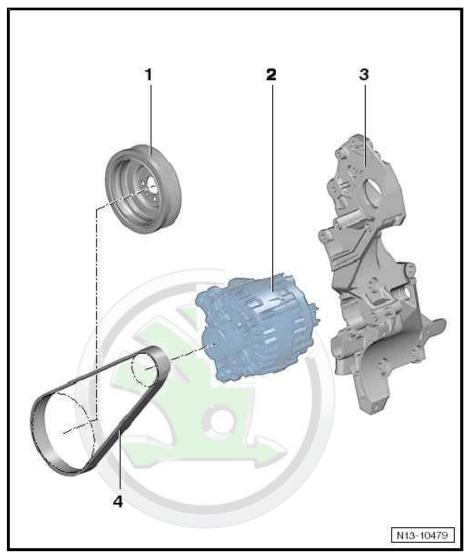
□ Removing and installing ⇒ Electrical System; Rep. gr. 27

3 - Bracket for auxiliary units

- □ Removing and installing ⇒ "1.6 Removing and installing bracket for auxiliary units", page 87
- □ Tightening sequence ⇒ page 62

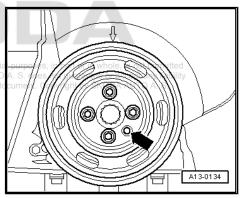
4 - V-ribbed belt

- □ Removing and installing ⇒ "1.3 Removing and installing V-ribbed belt", <u>page 74</u>
- pay attention to the correct position on the belt pulley when installing it



Fitting position of the vibration damper

The hole -arrow- in the vibration damper must be positioned above the peg on the crankshaft timing belt sprocket.

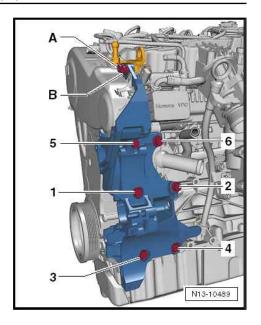




Bracket for auxiliary units - tightening order and tightening torques

- A dowel sleeve must be located between the bracket for auxiliary units and the cylinder block in the area of the screw hole
 -6-.
- Insert new fixing screws for the bracket for auxiliary units as follows:
- ♦ Screws -1- and -2- M10 x 52
- Screws -3- and -4- M10 x 30
- ♦ Screws -5- and -6- M10 x 60
- ♦ Screws of the lifting eye -A- and -B- 20 Nm
- Tighten securing bolts for bracket for auxiliary units step by step in the following order:

Step	Bolts	Tightening torque / torquing angle
1.	-1 6-	by hand as far as the stop
2.	-1 6-	40 Nm
3.	-3- and -4-	Turn 45° further
4.	-1-, -2-, -5- and -6-	Turn 90° further



1.1.2 Summary of components - V-ribbed belt, vehicles with air conditioning system and guide pulley



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.





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1 - V-ribbed belt

- □ Removing and installing ⇒ "1.3 Removing and installing V-ribbed belt", page 74
- check for wear
- mark the direction of rotation with chalk or a felttip pen before removing
- ☐ do not kink
- pay attention to the correct position on the belt pulley when installing it

2 - Guide pulley for V-ribbed belt

□ Removing and installing ⇒ "1.3 Removing and installing V-ribbed belt", <u>page 74</u>

3 - Crankshaft-belt pulley

- with vibration damper
- pay attention to correct installation position ⇒ page 64
- □ Removing and installing ⇒ "1.4 Removing and installing vibration dampener", page 78

4 - Screw

- ☐ Replace after disassembly
- □ 10 Nm + 90°

5 - Fitting sleeve

- pay attention to correct fit in the bracket for auxiliary units
- ☐ The dowel sleeve is located in the top right screw hole ⇒ page 64

6 - Bracket for auxiliary units

- □ Removing and installing ⇒ "1.6 Removing and installing bracket for auxiliary units", page 87
- ☐ Tightening sequence ⇒ page 64

7 - Alternator

□ Removing and installing ⇒ Electrical System; Rep. gr. 27

8 - AC compressor

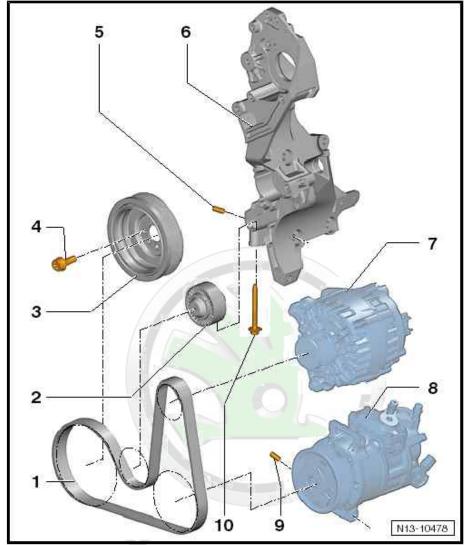
□ removing and installing ⇒ Heating, Air Conditioning; Rep. gr. 87

9 - Fitting sleeve

- pay attention to correct fit in the bracket for auxiliary units
- ☐ The dowel sleeve is located in the bottom right screw hole <u>⇒ page 64</u>

10 - Screw

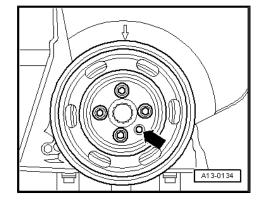
☐ Tightening torque ⇒ "1.3 Removing and installing V-ribbed belt", page 74





Fitting position of the vibration damper

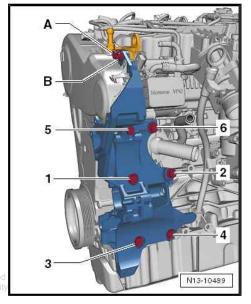
 The hole -arrow- in the vibration damper must be positioned above the peg on the crankshaft timing belt sprocket.



Bracket for auxiliary units - tightening order and tightening torques

- A dowel sleeve must be located between the bracket for auxiliary units and the cylinder block in the area of the screw hole
 -6-.
- Insert new fixing screws for the bracket for auxiliary units as follows:
- ♦ Screws -1- and -2- M10 x 52
- ♦ Screws -3- and -4- M10 x 30
- ♦ Screws -5- and -6- M10 x 60
- ◆ Screws of the lifting eye -A- and -B- 20 Nm
- Tighten securing bolts for bracket for auxiliary units step by step in the following order:

Step	Bolts	Tightening torque / torquing angle
1 Protected	-1 6-	by hand as far as the stop
2. nless aut	norised by ŠKO6A AUTO	40 NmDA AUTO A. S. does not guarantee or accept an
3.	-3- and -4-	Turn 45° further
4.	-1-, -2-, -5- and	Turn 90° further
	-6-	



1.1.3 Summary of components - Vehicles with air conditioning system and tensioning element



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

1 - V-ribbed belt

- □ Removing and installing ⇒ "1.3 Removing and installing V-ribbed belt", page 74
- check for wear
- mark the direction of rotation with chalk or a felttip pen before removing
- ☐ do not kink
- pay attention to the correct position on the belt pulley when installing it

2 - Tensioner for V-ribbed belt

3 - Crankshaft-belt pulley

- with vibration damper
- pay attention to correct installation position ⇒ page 66
- □ Removing and installing ⇒ "1.4 Removing and installing vibration dampener", page 78

4 - Screw

- □ Replace after disassembly
- ☐ 10 Nm + 90°

5 - Dowel sleeves

pay attention to correct fit in the holder

6 - Bracket for auxiliary units

☐ Tightening sequence ⇒ page 66

7 - Screw

- □ Replace after disassembly
- 20 Nm + 90°

8 - Alternator

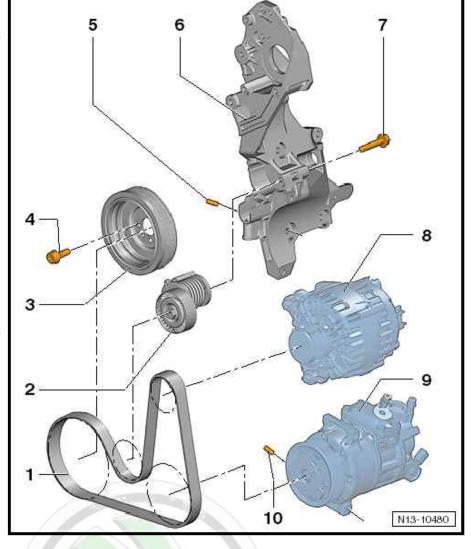
☐ Removing and installing ⇒ Electrical System; Rep. gr. 27

9 - AC compressor

□ removing and installing ⇒ Heating, Air Conditioning; Rep. gr. 87

10 - Dowel sleeves

pay attention to correct fit in the holder

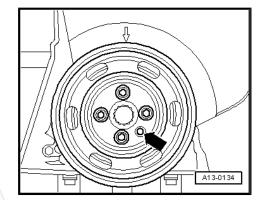






Fitting position of the vibration damper

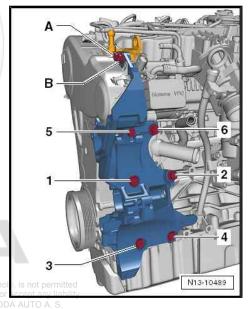
• The hole -arrow- in the vibration damper must be positioned above the peg on the crankshaft timing belt sprocket.



Bracket for auxiliary units - tightening order and tightening torques

- A dowel sleeve must be located between the bracket for auxiliary units and the cylinder block in the area of the screw hole
 -6-.
- Insert new fixing screws for the bracket for auxiliary units as follows:
- ♦ Screws -1- and -2- M10 x 52
- ♦ Screws -3- and -4- M10 x 30
- ♦ Screws -5- and -6- M10 x 60
- ♦ Screws of the lifting eye -A- and -B- 20 Nm
- Tighten securing bolts for bracket for auxiliary units step by step in the following order:

Step	Bolts	Tightening torque / torquing angle
1.	-1 6-	by hand as far as the stop
2.	Protected by cop -unless (6thorised	right. Copying for private or commercial purposes, in part (40 Nm AUTO A. S. ŠKODA AUTO A. S. does not guar
3.	-3- and -4-	Turn 45° further
4.	-1-, -2-, -5- and -6-	Turn 90° further



1.2 Assembly overview - toothed belt drive

⇒ "1.2.1 Summary of components - Toothed belt drive, Fabia II, Roomster, Rapid India, Rapid NH", page 66

⇒ "1.2.2 Summary of components - Toothed belt drive, Octavia II, Superb II, Yeti", page 70

1.2.1 Summary of components - Toothed belt drive, Fabia II, Roomster, Rapid India, Rapid NH



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

1 - Toothed belt

- □ before removing mark running direction
- check for wear
- do not kink
- Removing and installing ⇒ "1.7 Removing and installing toothed belt", page 96



Note

If the toothed belt is replaced carrying out engine repair (al from regular change interval should be entered in the Serv Schedule!

2 - Screw

- ☐ Replace after disassembly
- to release and tighten use counterholder -T30004 (3415)-
- □ Neither oil nor grease thread or collar

Tighten in three stages as follows

- ♦ Stage 1 180 Nm
- 2nd stage, turn 90° further
- ♦ 3rd stage, turn 45° further
- 3 Crankshaft toothed belt sprocket

4 - Nut

□ 20 Nm

5 - Guide pulley



Note

Only replace pin screw for pulley if damaged. Tightening torque for stud bolt 15 Nm.

6 - Nut

- □ Replace after disassembly
- □ 20 Nm + 45°

7 - Tensioning pulley



Note

Only replace pin screw for pulley if damaged. Tightening torque for stud bolt 15 Nm.

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for removing and installing, remove engine support ⇒ "1.7.1 Removing and installing engine support, Fabia II, Roomster, Rapid India, Rapid NH", page 46



Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

8 - Sc	erew
	Replace after disassembly 20 Nm + 45°
9 - Ca	amshaft toothed belt pulley
10 - S	Screw
	20 Nm
11 - S	
	to release and tighten use counterholder - T10051- 100 Nm
12 - H	lub
0	for camshaft to release and tighten use counterholder - T10051- to remove use extractor - T10052- Removing and installing <u>\$\times\$ "2.3 Removing and installing camshafts"</u> , page 191
	Rear toothed belt guard
14 - S	
0	Replace after disassembly Attach high pressure pump 20 Nm + 45°
15 - S	Screw
	Replace after disassembly 10 Nm
16 - G	Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not per unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A.
17 - S	
	for attaching the guide pulley Replace after disassembly 50 Nm + 90°
18 - H	lub
<u> </u>	for high pressure pump to release and tighten use counterholder - T10051- to remove use extractor - T40064- Removing and installing ⇒ "2.8 Removing and installing the high pressure pump", page 450
19 - N	lut 95 Nm
20 - T	oothed belt pulley high pressure pump
	Replace after disassembly
	20 Nm
	Coolant pump Removing and installing <u>⇒ "2.2 Removing and installing coolant pump", page 253</u>
23 - S	
	15 Nm
	oothed belt guard - top part
25 - T □	oothed belt guard - bottom part Removing and installing <u>⇒ page 70</u>

26	_	Sci	rew

□ 9 Nm

27 - Screw

- Replace after disassembly
- □ 10 Nm + 90°

28 - Crankshaft-belt pulley

- with vibration damper
- ☐ Assembly only possible in one position, holes offset
- □ Removing and installing ⇒ "1.4 Removing and installing vibration dampener", page 78

29 - Screw

□ 5 Nm

30 - Protection plate

31 - Screw

- □ Replace after disassembly
- ☐ Tightening torque and tightening order ⇒ page 70

32 - Engine support bracket

Removing and installing

⇒ "1.7.1 Removing and installing engine support, Fabia II, Roomster, Rapid India, Rapid NH", page 46

Different versions of tensioning pulleys



Note

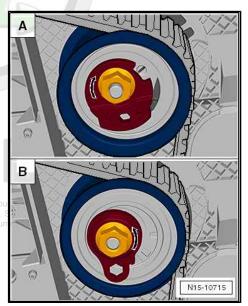
- There are 2 versions of tensioning pulleys installed, which can be exchanged.
- The versions differ by the reverse direction of rotation when tensioning. During adjusting work, first check which version of tensioning pulley is installed and then ensure the correct rotation direction of the eccentric element when tensioning the belt.

Tensioning pulley A

- Use the rig tool T10265- for installing.
- When installing, ensure that the peg of the base plate of the tensioning pulley is correctly positioned in the opening in the rear timing belt guard.
- Tensioning the timing belt is carried out by turning the eccentric element of the tensioning pulley »clockwise«.

Tensioning pulley B

- It is not necessary to use a rig tool for installing.
- The tensioning pulley does not have a peg on the base plate and is not tied up at the opening in the rear timing belt guard (its fitting position is free).
- Tensioning the timing belt is carried out by turning the eccentric element of the tensioning pulley »anti-clockwise«.



Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ...

1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

Secure the engine support

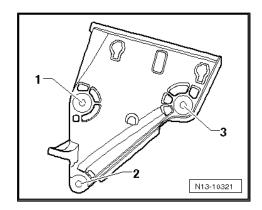


Note

Replace screws of engine support.

Tighten screws in 3 stages in the following sequence:

Step	Bolts	Torque/torquing angle
1.	-1- to -3-	7 Nm
2.	-1- to -3-	40 Nm
3.	-1- to -3-	Turn 180° further

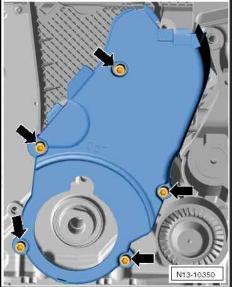


Attach toothed belt guard - bottom part

Tighten screws -arrows-: 9 Nm.



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1.2.2 Summary of components - Toothed belt drive, Octavia II, Superb II, Yeti



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

5 6 7 8 9 10 11 12

18 19

20 21

22 23

25

S13-0721

13 14 15

1 - Toothed belt

- □ before removing mark running direction
- check for wear
- do not kink
- Removing and installing ⇒ "1.7 Removing and installing toothed belt", page 96



Note

If the toothed belt is replaced med carrying out engine repair (a art from regular change interval) should be entered in the Servi Schedule!

2 - Screw

- □ Replace after disassembly
- to release and tighten use counterholder -T30004 (3415)-
- □ Neither oil nor grease thread or collar

Tighten in three stages as follows

- ♦ Stage 1 180 Nm
- 2nd stage, turn 90° further
- ♦ 3rd stage, turn 45° further
- 3 Crankshaft toothed belt sprocket

4 - Nut

□ 20 Nm

5 - Guide pulley



Note

Only replace pin screw for pulley if damaged. Tightening torque for stud bolt 15 Nm.

6 - Nut

- □ Replace after disassembly
- ☐ 20 Nm + 45°

7 - Tensioning pulley



Note

Only replace pin screw for pulley if damaged. Tightening torque for stud bolt 15 Nm.

- □ pay attention to different versions ⇒ page 73
- ☐ for removing and installing, remove engine support:
- Octavia II, Yeti > "1.7.3 Removing and installing engine support bracket, Octavia II, Yeti", page 55

30

32

31

29

28 27



Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

◆ Superb II ⇒ <u>"1.7.2 Removing and installing engine support bracket, Superb II", page 51</u> .	
8 - Screw	
☐ Replace after disassembly	
□ 20 Nm + 45°	
9 - Camshaft toothed belt pulley	
10 - Screw	
□ 20 Nm	
11 - Screw	
□ to release and tighten use counterholder - T10051-	
□ 100 Nm	
12 - Hub	
☐ for camshaft	
to remove use extractor - T10052-	
□ Removing and installing <u>⇒ "2.3 Removing and installing camshafts", page 191</u>	
13 - Rear toothed belt guard	
14 - Screw	
Replace after disassembly	
□ Attach high pressure pump□ 20 Nm + 45°	
15 - Screw □ Replace after disassembly	
□ 10 Nm	
16 - Guide pulley	
17 - Screw	
☐ for attaching the guide pulley	
☐ Replace after disassembly	
□ 50 Nm + 90°	
18 - Hub	
☐ for high pressure pump	
☐ to release and tighten use counterholder - T10051-	
□ to remove use extractor - T40064-	
□ Removing and installing ⇒ "2.8 Removing and installing the high pressure pump", page 450	
19 - Nut	
95 Nm Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability	
20 - Toothed belt pulley high pressure pump in this document. Copyright by SKODA AUTO A. S.	
21 - Screw	
□ Replace after disassembly	
□ 20 Nm	
22 - Coolant pump	
□ Removing and installing ⇒ "2.2 Removing and installing coolant pump", page 253	
23 - Screw	
□ 15 Nm	
24 - Toothed belt guard - top part	
25 - Toothed belt guard - bottom part	
□ Removing and installing ⇒ page 74	

26 - Screw

□ 9 Nm

27 - Screw

- Replace after disassembly
- □ 10 Nm + 90°

28 - Crankshaft-belt pulley

with vibration damper

29 - Screw

□ 5 Nm

30 - Protection plate

31 - Screw

- □ Replace after disassembly
- □ Removing and installing ⇒ page 74

32 - Engine support bracket

☐ Removing and installing ⇒ "1.7 Removing and installing engine support", page 46

Different versions of tensioning pulleys



Note

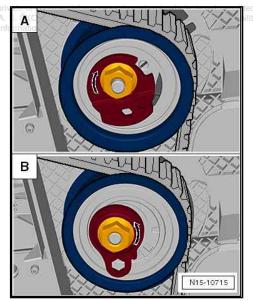
- There are 2 versions of tensioning pulleys installed, which can be exchanged.
- The versions differ by the reverse direction of rotation when tensioning. During adjusting work, first check which version of tensioning pulley is installed and then ensure the correct rotation direction of the eccentric element when tensioning the belt.

Tensioning pulley A

- ◆ Use the rig tool T10265- for installing.
- When installing, ensure that the peg of the base plate of the tensioning pulley is correctly positioned in the opening in the rear timing belt guard.
- Tensioning the timing belt is carried out by turning the eccentric element of the tensioning pulley »clockwise«.

Tensioning pulley B

- It is not necessary to use a rig tool for installing.
- The tensioning pulley does not have a peg on the base plate and is not tied up at the opening in the rear timing belt guard (its fitting position is free).
- Tensioning the timing belt is carried out by turning the eccentric element of the tensioning pulley »anti-clockwise«.





Secure the engine support

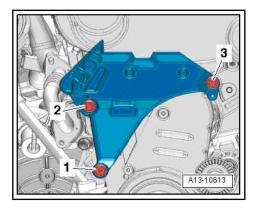


Note

Replace screws of engine support.

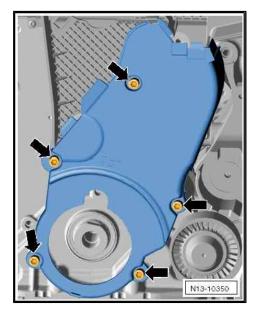
Tighten screws in 3 stages in the following sequence:

Step	Bolts	Torque/torquing angle
1.	-1- to -3-	7 Nm
2.	-1- to -3-	40 Nm
3.	-1- to -3-	Turn 180° further



Attach toothed belt guard - bottom part

- Tighten screws -arrows-: 9 Nm.



1.3 Removing and installing V-ribbed belt

⇒ "1.3.1 Removing and installing V-ribbed belt for vehicles without air conditioning system", page 74

⇒ "1.3.2 Remove and install poly V-belt for vehicles with air conditioning unit and guide pulley, Fabia II, Roomster, Rapid NH, Octavia II, Superb II, Yeti", page 75

⇒ "1.3.3 Removing and installing V-ribbed belt for vehicles with air conditioning system and tensioning element", page 76

1.3.1 Removing and installing V-ribbed belt for vehicles without air conditioning system



Note

The repair kit includes the V-ribbed belt, the assembly tool -T10367- and an illustrated work procedure ⇒ ETKA - Electronic Catalogue of Original Parts .

Removing

 Remove the sound dampening system ⇒ Body Work; Rep. gr. 50.



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- Remove the right wheelhouse liner bottom part ⇒ Body Work; Rep. gr. 66.
- Cut through V-ribbed belt.

Installing

Assembly is carried out in the reverse order. When installing, observe the following:

- The following work procedure is described in the illustrated work procedure from the repair kit.
- Start engine and check ribbed V-belt run.
- 1.3.2 Remove and install poly V-belt for vehicles with air conditioning unit and guide pulley, Fabia II, Roomster, Rapid NH, Octavia II, Superb II, Yeti

Removing

Remove the sound dampening system ⇒ Body Work; Rep. gr. 50.

For vehicles Fabia II, Roomster, Rapid NH

- Removing the right wheel-well inner panel ⇒ Body Work; Rep. gr. 66 .
- Remove screws -3-, -4- and -6-.
- Carefully push the coolant line -5- to the side so that there is adequate space for loosening the screw -2- for the guide pulley of the V-ribbed belt.

For vehicles Octavia II, Superb II, Yeti

Remove the right wheelhouse liner bottom part ⇒ Body Work; Rep. gr. 66.

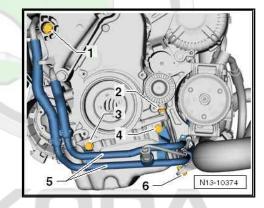
Continued for all vehicles



Caution

When installing, risk of damage through reversing the rotation direction of an already used V-ribbed belt.

If it is intended to re-install the V-ribbed belt, mark the direction of rotation with chalk or a felt-tip pen before removing it.



- Slacken the screw for the guide pulley/V-ribbed belt -arrowuntil the V-ribbed belt can be easily removed.
- Remove the V-ribbed belt.

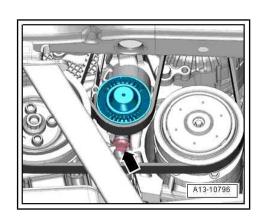
Installing

Assembly is carried out in the reverse order. When installing, observe the following:



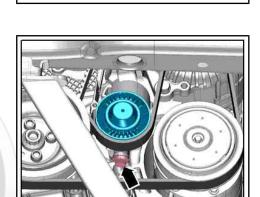
Note

Before fitting the V-ribbed belt make sure that all assemblies (generator and AC compressor) are securely mounted.



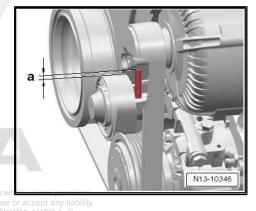
Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- First position the V-ribbed belt on the belt pulleys of the crankshaft and AC compressor and last on the belt pulley of the generator.
- 1 Vibration dampener
- 2 Guide pulley
- 3 Alternator
- 4 AC compressor
- Coat the guide surfaces for the guide pulley with the grease G 052 751 A1.
- Guide the guide pulley with the bolt into the guide in the bracket for auxiliary units.
- Screw in the screw for the guide pulley -arrow- until the bolt of the guide pulley is located at the stop (this tensions the Vribbed belt).
- Then unscrew screw -arrow- again by ¹/₄ turn and tighten to 30 Nm + 90°.



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- Check whether the end of the screw for the guide pulley/V-ribbed belt protrudes beyond the contact surface of the guide pulley. Dimension -a- = approx. 2.5 mm.
- Check correct positioning of the V-ribbed belt.
- Start engine and check ribbed V-belt run.



1.3.3 Removing and installing V-ribbed belt for vehicles with air conditioning system and tensioning element

Special tools and workshop equipment required

♦ Locking pin - T10060 A-

Removing

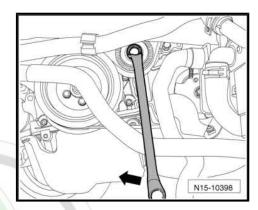
- Remove the sound dampening system ⇒ Body Work; Rep. gr. 50 .
- Remove the right wheelhouse liner bottom part ⇒ Body Work;
 Rep. gr. 66 .



Caution

When installing, risk of damage through reversing the rotation direction of an already used V-ribbed belt.

- ♦ If it is intended to re-install the V-ribbed belt, mark the direction of rotation with chalk or a felt-tip pen before removing it.
- Loosen the V-ribbed belt by swivelling the tensioning element in -the direction of the arrow-.



- Align the holes -arrows- and lock the tensioning element using the locking pin - T10060 A-.
- Remove the V-ribbed belt.

Installing

Assembly is carried out in the reverse order. When installing, observe the following:



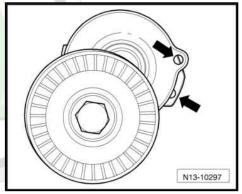
Note

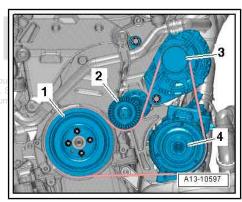
Before fitting the V-ribbed belt make sure that all assemblies (generator and AC compressor) are securely mounted.



- Crankshaft
- 2 -Tensioning element
- 3 -Alternator

AC compressor

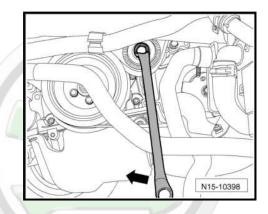






Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- Hold the tensioning element with the ring spanner and pull out the locking pin - T10060 A-.
- Release the tensioning element.
- Check correct positioning of the V-ribbed belt.
- Start engine and check ribbed V-belt run.

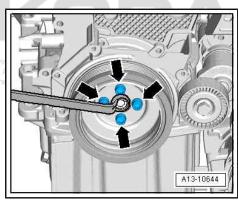


1.4 Removing and installing vibration dampener

Removing

- Remove V-ribbed belt
 ⇒ "1 Removing and installing a V-ribbed belt and a toothed belt", page 60.
- Loosen the screws -arrows- of the vibration damper, to do so hold the screw for the crankshaft timing belt sprocket using the ring spanner.

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Unscrew screws and remove vibration dampener.

Installing

Assembly is carried out in the reverse order. When installing, observe the following:



Note

- Note the fitting position of the vibration damper ⇒ page 66 or ⇒ page 61.
- ♦ Replace screws of the vibration damper.

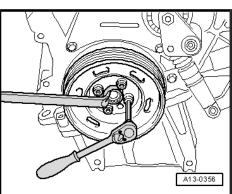
Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

Screws for belt pulley
 ⇒ "1.1 Assembly overview - V-ribbed belt", page 60 .





1.5 Removing and installing tensioning element for V-ribbed belt

⇒ "1.5.1 Remove and install tensioner link for Poly V-belt, Fabia II, Roomster, Rapid NH", page 79

⇒ "1.5.2 Remove and install the tensioner link for poly V-belt, Octavia II, Superb II, Yeti", page 81

⇒ "1.5.3 Removing and installing tensioner link for poly V-belt, Rapid India", page 83

Remove and install tensioner link for 1.5.1 Poly V-belt, Fabia II, Roomster, Rapid

For Fabia II, Roomster vehicles

Special tools and workshop equipment required

♦ Supporting device - MP9-200 (10-222A)-

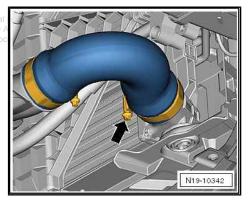
For vehicles Rapid NH

Special tools and workshop equipment required

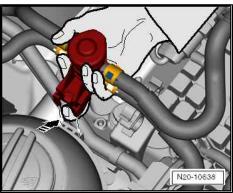
- ◆ Supporting device T30099-
- ♦ Washer T30099/1-
- ♦ Adapter MP9-200/3 (10-222A/3)-

Removing

- Remove V-ribbed belt ⇒ "1.3 Removing and installing V-ribbed belt", page 74
- Remove right charge air hose otected by copyright

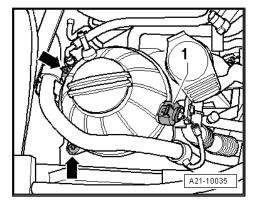


Unlock the catch peg with a finger and pull the fuel preheating valve upwards out of the guide of the coolant expansion bottle.



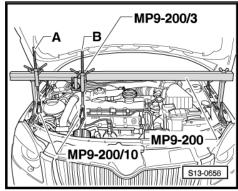


- Unscrew the screws of the coolant expansion bottle -arrows-.
- Disconnect the plug -1- from the expansion bottle and remove the coolant expansion bottle and place it on the engine.



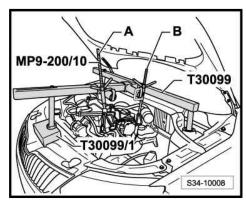
For Fabia II, Roomster vehicles

Install supporting device - MP9-200 (10-222A)- and support the engine with spindle -B- in fitting position. Allow spindle -A- to hang loosely.



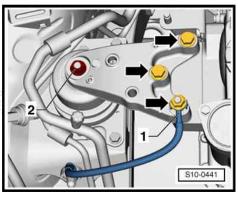
For vehicles Rapid NH

- Remove the cooling water tank cover ⇒ Body Work; Rep. gr.
- Position the supporting device T30099- with the base T30099/1- and the adapter MP9-200/3 (10-222A/3)- and support the engine with spindle -A- in its installed position. Allow spindle -B- to hang loosely.

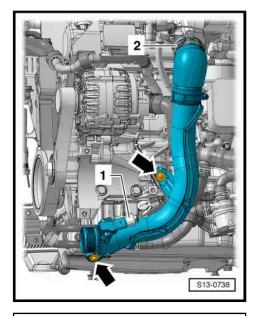


Continued for all vehicles

- Remove the earth connection -1- from the assembly bracket.
- Remove the screws -arrows- of the assembly bracket ⇒ "1.7.1 Removing and installing engine support, Fabia II, Roomster, Rapid India, Rapid NH", page 46
- Carefully lower the engine sufficiently so that the tensioning element can be taken out.



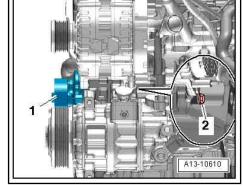
- Unscrew screws -arrows-.
- Loosen hose clamp -2-.
- Disconnect the plug -1- at the charge pressure sender G31with intake air temperature sender - G42- and remove the right charge air pipe.



Unscrew screw -2- and remove tensioning element -1- from Vribbed belt.

Installing

Assembly is carried out in the reverse order. When installing, observe the following:



- Install the screws -arrows- of the assembly bracket ⇒ "1.7.1 Removing and installing engine support, Fabia II, Roomster, Rapid India, Rapid NH", page 46
- Replace the screw of the tensioning element for the V-ribbed belt.
- Install the V-ribbed belt ⇒ "1.3 Removing and installing V-ribbed belt", page 74.

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

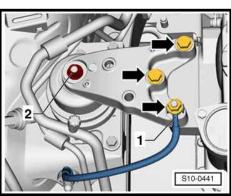
Screw for the tensioning element

Protected y"1:13 Summary of components Vehicles with air conditited unless au tioning system and tensioning element", page 64 DA AUTO A. S.

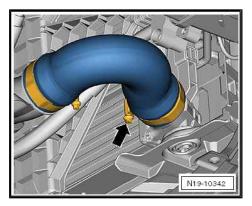
Screws for charge air pipes ⇒ "2.1.1 Summary of components - Charge air cooler, Fabia II, Roomster, Rapid India, Rapid NH", page 409

1.5.2 Remove and install the tensioner link for poly V-belt, Octavia II, Superb II, Yeti

Removing



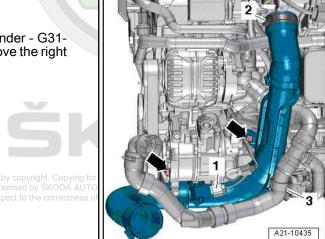
- Radiator protection mat VAS 531003-
- Remove V-ribbed belt ⇒ "1.3 Removing and installing V-ribbed belt", page 74.
- Remove right charge air hose.
- Remove fan shroud with radiator fans ⇒ "4.3 Removing and installing fan shroud with radiator fan ", page 298



Fit radiator protection mat - VAS 531003- to vehicle, as shown.



- Unscrew screws -arrows-.
- Detach coolant hose -3-.
- Loosen hose clamp -2-.
- Disconnect the plug -1- at the charge pressure sender G31with intake air temperature sender - G42- and remove the right charge air pipe.





Unscrew screw -2- and remove tensioning element -1- from Vribbed belt.

Installing

Assembly is carried out in the reverse order. When installing, observe the following:

- Replace the screw of the tensioning element for the V-ribbed
- Install the V-ribbed belt ⇒ "1.3 Removing and installing V-ribbed belt", page 74.

Tightening torques - summaries of components



Note

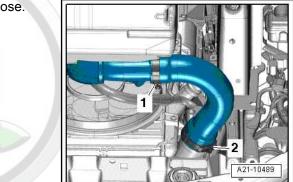
Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- Screw for the tensioning element ⇒ "1.1.3 Summary of components - Vehicles with air conditioning system and tensioning element", page 64.
- Screws for charge air pipes ⇒ "2.1.2 Summary of components - Charge air cooler, Octavia II, Superb II, Yeti", page 410

1.5.3 Removing and installing tensioner link for poly V-belt, Rapid India

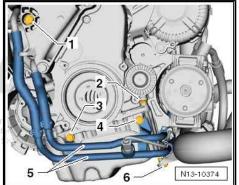
Removing

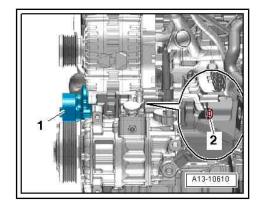
- Remove V-ribbed belt ⇒ "1.3 Removing and installing V-ribbed belt", page 74.
- Slacken clamps -1- and -2- and remove the charge air hose.



- Unscrew screws -3-, -4- and -6-.
- Carefully press off the coolant line -5- to the side.

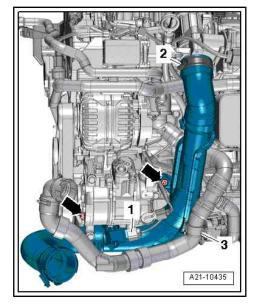




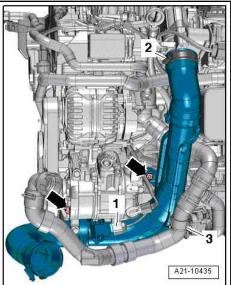




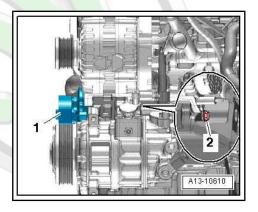
 Unscrew the fixing screws -arrows- from the charge air pipe and disconnect the plug -1- at the charge pressure sender -G31- with intake air temperature sender - G42- .



- Open the clamp -2-, expose the coolant hose -3- and remove the charge air pipe.
- Remove AC compressor, do not loosen the coolant line at the AC compressor.
- The refrigerant circuit remains closed.
- Hang the AC compressor at the body using suitable auxiliary tools ⇒ Rep. gr. 87; Removing and installing AC compressor.



Release fixing screw -2-.

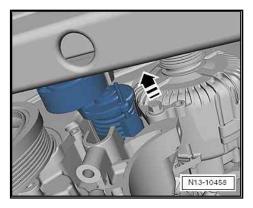




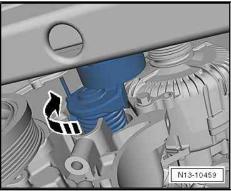
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- Push the tensioning element slightly forwards.



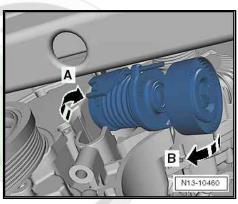
- Rotate the tensioning element 180° clockwise.



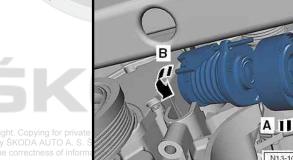
Pull the tensioning element below the alternator obliquely towards the bottom out of the support.

Installing

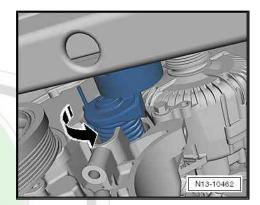
The installation of the tensioning element occurs in reverse order. Pay attention to the following:



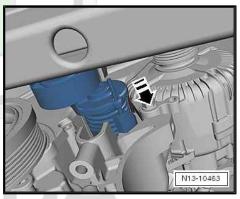
Rotate the tensioning element below the alternator in its sup-



Rotate the tensioning element 180° clockwise.



Insert the tensioning element in its support.



- Bring coolant line -5- back into the fitting position, tighten screws -3-, -4-, -6- to the following tightening torque: 8 Nm.
- Install the V-ribbed belt with respect to the correctness of information in this do
 ⇒ "1.3 Removing and installing V-ribbed belt", page 74

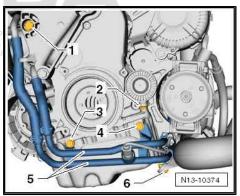
Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- ◆ Screw for the tensioning element
 ⇒ "1.1.3 Summary of components Vehicles with air conditioning system and tensioning element", page 64
- Screws for charge air pipes
 ⇒ "2.1.1 Summary of components Charge air cooler, Fabia II, Roomster, Rapid India, Rapid NH", page 409





1.6 Removing and installing bracket for auxiliary units

⇒ "1.6.1 Removing and installing bracket for auxiliary units, Fabia II, Roomster, Rapid India, Rapid NH", page 87

⇒ "1.6.2 Removing and installing bracket for auxiliary units, Octavia II, Yeti", page 89

⇒ "1.6.3 Removing and installing bracket for auxiliary units, Superb II", page 91

1.6.1 Removing and installing bracket for auxiliary units, Fabia II, Roomster, Rapid India, Rapid NH

Removing

- Remove the generator ⇒ Electrical System; Rep. gr. 27.
- Remove high pressure pump "2.8 Removing and installing the high pressure pump", page

On vehicles with air conditioning



WARNING

Risk of injury through refrigerant.

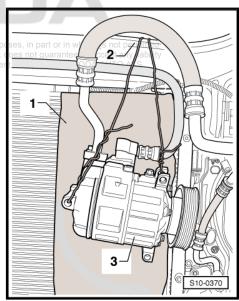
◆ Do not open the refrigerant circuit of the air conditioning system.



Caution

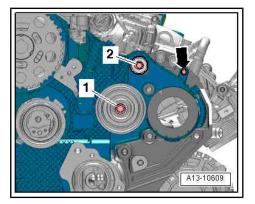
Risk of damaging the condenser as well as the refrigerant lines and hoses.

- Do not over-tension or buckle refrigerant lines and hoses.
- Remove the AC compressor from the bracket for auxiliary units ⇒ Heating, Air Conditioning; Rep. gr. 87.
- Attach the AC compressor -3- e.g. behind the lock carrier as shown in the figure. As protection put a sheet of cardboard -1- on the radiator wall. Protected by copyright.



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- Unscrew screw -arrow-.
- Release screws -1- and -2- and remove toothed belt camshaft drives



Unscrew bolts -1- to -6- and remove bracket for auxiliary units.

Installing

Assembly is carried out in the reverse order. When installing, observe the following:



Note

Replace screws which have been tightened to a torquing angle.

- If no dowel sleeves are present on the top right between the bracket for auxiliary units and the cylinder block, insert dowel sleeves.
- Tighten the fixing screws for the bracket for auxiliary units.
- Install high pressure pump
 ⇒ "2.8 Removing and installing the high pressure pump", page 450
- Install the toothed belt ⇒ , page 101 .
- Install engine support and engine mount
 ⇒ "1.7 Removing and installing engine support", page 46 and
 ⇒ "1.5 Assembly bracket", page 38.
- Install generator ⇒ Electrical System; Rep. gr. 27.

On vehicles with air conditioning

- Install AC compressor at the bracket for auxiliary units
 ⇒ "1.1 Assembly overview V-ribbed belt", page 60
- Filling and bleeding the fuel system
 ⇒ "1.3 Filling/bleeding the fuel system", page 429
- Check fuel system for tightness
 ⇒ "2.9 Check the fuel system for tightness", page 457 .

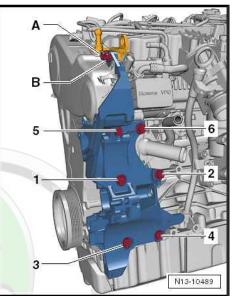
Tightening torques - summaries of components of scorections of information in this document. Copyright to the whole, is not permitted in the state of summaries of components of scorections of information in this document. Copyright by SKODA AUTO A. S.



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- Screws for the bracket for auxiliary units
 ⇒ "1.1 Assembly overview V-ribbed belt", page 60.
- Summary of components
 ⇒ "1.2 Assembly overview toothed belt drive", page 66.





1.6.2 Removing and installing bracket for auxiliary units, Octavia II, Yeti

Special tools and workshop equipment required

- ♦ Supporting device T30099-
- Washer T30099/1-
- ◆ Adapter MP9-200/3 (10-222/3)-
- ♦ Ring bolt 3368-
- Collar nut M10

Removing

- Remove the generator ⇒ Electrical System; Rep. gr. 27.
- Remove high pressure pump ⇒ "2.8 Removing and installing the high pressure pump", page

On vehicles with air conditioning



WARNING

Do not open the refrigerant circuit of the air conditioning sys-



Note

In order to avoid damage to the AC compressor as well as to the refrigerant lines and hoses, ensure that the lines and hoses are not over-tensioned, kinked or bent.

Remove the AC compressor from the bracket for auxiliary units and attach to the lock carrier.

Continued for all vehicles

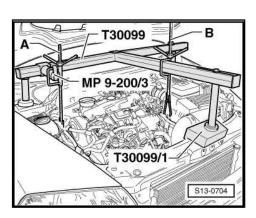
- Remove the cooling water tank cover ⇒ Body Work; Rep. gr.
- Insert the supporting device T30099- with the base -T30099/1- and the adapter - MP9-200/3 (10-222A/3)- and attach the spindle -B-.



WARNING

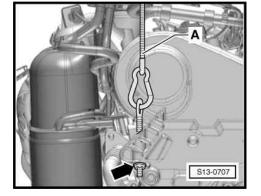
Risk of accident due to loosened screwed connection.

The collar nut must be screwed in by at least 6 turns so that the ring bolt - 3368- is held securely.



Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

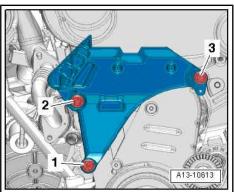
- Tighten the ring bolt 3368- with the collar nut M10 or the nut with the washer -arrow- at the engine support, as shown in the illustration.
- Hook spindle -A- onto ring bolt 3368- .
- Uniformly pre-tension the engine with both spindles, but do not



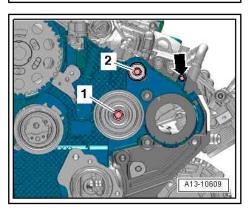
- Release screws -1- and -2-, remove connecting stud.
- Remove screws -3- to -6- and remove engine mount.



Unscrew screw -3- at the engine support.



- Unscrew screw -arrow-.
- Release screws -1- and -2- and remove toothed belt camshaft drives.





Unscrew bolts -1- to -6- and remove bracket for auxiliary units.

Installing

Assembly is carried out in the reverse order. When installing, observe the following:



Note

Replace screws which have been tightened to torquing angle.

- If no dowel sleeves are present on the top right between the bracket for auxiliary units and the cylinder block, insert dowel sleeves.
- Tighten the screws for the bracket for auxiliary units.
- Install engine support and engine mount 1.7 Removing and installing engine support", page 46 and ⇒ "1.5 Assembly bracket", page 38 .
- Install high pressure pump ⇒ "2.8 Removing and installing the high pressure pump", page 450
- Install the toothed belt ⇒ "1.7 Removing and installing toothed belt", page 96.
- Install generator ⇒ Electrical System; Rep. gr. 27.

On vehicles with air conditioning

- Install AC compressor at the bracket for auxiliary units ⇒ "1.1 Assembly overview - V-ribbed belt", page 60
- Filling and bleeding the fuel system ⇒ "1.3 Filling/bleeding the fuel system", page 429.
- Check fuel system for tightness ⇒ "2.9 Check the fuel system for tightness", page 457

Tightening torques - summaries of components



Note

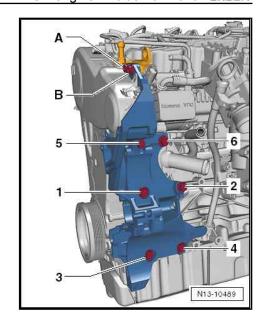
Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- Screws for the bracket for auxiliary units ⇒ "1.1 Assembly overview - V-ribbed belt", page 60
- Summary of components ⇒ "1.2 Assembly overview toothed belt drive" page 66 tee or accept any liability
- Assembly bracket, Octavia II ⇒ "1.5.2 Assembly mountings, Octavia II", page 39
- Assembly bracket (Yeti) ⇒ "1.5.3 Assembly mountings, Superb II, Yeti", page 40.
- Engine support bracket ⇒ "1.7.3 Removing and installing engine support bracket, Octavia II, Yeti", page 55

1.6.3 Removing and installing bracket for auxiliary units, Superb II

Special tools and workshop equipment required

♦ Supporting device - MP9-200 (10-222A)-





Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- Adapter MP9-200/3 (10-222A/3)-
- ◆ Support T10311-
- ♦ Ring bolt 3368-
- ♦ Collar nut M10

Removing

- Remove the generator ⇒ Electrical System; Rep. gr. 27.
- Remove high pressure pump
 ⇒ "2.8 Removing and installing the high pressure pump", page 450

On vehicles with air conditioning



WARNING

Do not open the refrigerant circuit of the air conditioning system



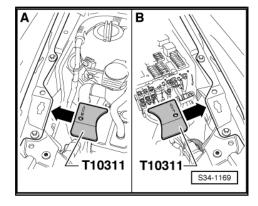
Note

In order to avoid damage to the AC compressor as well as to the refrigerant lines and hoses, ensure that the lines and hoses are not over-tensioned, kinked or bent.

 Remove the AC compressor from the bracket for auxiliary units and attach to the lock carrier.

Continued for all vehicles

- Remove the cooling water tank cover ⇒ Body Work; Rep. gr. 66.
- Insert the wing plate T10311- on the right vehicle side -A- in the -direction of the arrow- up to the stop. When doing this, the arrow -R- on the wing plate - T10311- points to the rear.
- Also insert the wing plate T10311- on the left vehicle side
 -B- in the -direction of the arrow- up to the stop. When doing this, the -arrow L- on the wing plate T10311- points to the rear.





Note

The wing plates -T10311- ensure that the wings do not get damaged through the weight of the engine/gearbox unit.

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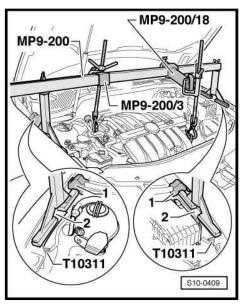
Position the supporting device - MP9-200 (10-222A)- with the adapters - MP9-200/3 (10-222A/3) - and support the engine/ gearbox unit in its installed position.



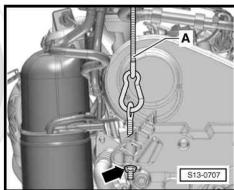
WARNING

Risk of accident due to loosened screwed connection.

The collar nut must be screwed in by at least 6 turns so that the ring bolt - 3368- is held securely.

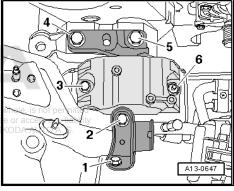


- Tighten the ring bolt 3368- with the collar nut M10 or the nut with the washer -arrow- at the engine support, as shown in the illustration.
- Hook spindle -A- onto ring bolt 3368- .
- Uniformly pre-tension the engine with both spindles, but do not

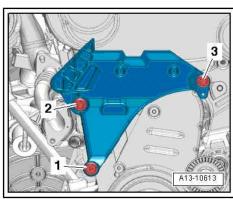


- Release screws -1- and -2-, remove connecting stud.
- Remove screws -3- to -6- and remove engine mount.





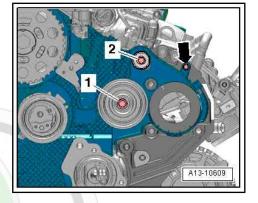
Unscrew screw -3- at the engine support.





Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- Unscrew screw -arrow-.
- Release screws -1- and -2- and remove toothed belt camshaft drives





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Unscrew bolts -1- to -6- and remove bracket for auxiliary units.

Installing

Assembly is carried out in the reverse order. When installing, observe the following:



Note

Replace screws which have been tightened to torquing angle.

- If no dowel sleeves are present on the top right between the bracket for auxiliary units and the cylinder block, insert dowel sleeves.
- Tighten the screws for the bracket for auxiliary units.
- Install engine support and engine mount 1.7 Removing and installing engine support", page 46 and ⇒ "1.5 Assembly bracket", page 38 .
- Install high pressure pump ⇒ "2.8 Removing and installing the high pressure pump", page <u>450</u>
- Installing the timing belt.
- Install generator ⇒ Electrical System; Rep. gr. 27.

On vehicles with air conditioning

- Install AC compressor at the bracket for auxiliary units ⇒ "1.1 Assembly overview - V-ribbed belt", page 60.
- Filling and bleeding the fuel system ⇒ "1.3 Filling/bleeding the fuel system", page 429
- Check fuel system for tightness ⇒ "2.9 Check the fuel system for tightness", page 457

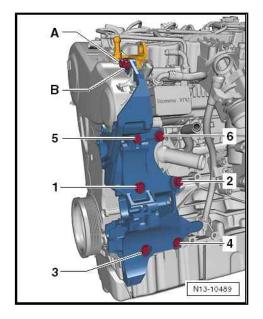
Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- Screws for the bracket for auxiliary units ⇒ "1.1 Assembly overview - V-ribbed belt", page 60.
- Summary of components ⇒ "1.2 Assembly overview - toothed belt drive", page 66.
- Assembly bracket ⇒ "1.5.3 Assembly mountings, Superb II, Yeti", page 40
- Engine support bracket 1.7.2 Removing and installing engine support bracket, Superb II", page 51





1.7 Removing and installing toothed belt

⇒ "1.7.1 Removing and installing toothed belt, Fabia II, Roomster, Rapid India, Rapid NH", page 96

⇒ "1.7.2 Removing and installing toothed belt, Octavia II, Superb II, Yeti", page 108

1.7.1 Removing and installing toothed belt, Fabia II, Roomster, Rapid India, Rapid NH

Special tools and workshop equipment required

- ♦ Rig pin 3359- (2x)
- ◆ Crankshaft arrester T10050-
- ◆ Locking pin T10060 A-
- Counterholder T10172- with stud T10172/4- and stud -T10172/9-
- ◆ Offset screwdriver T10264- (tensioning pulley A)
- ♦ Rig tool T10265- (tensioning pulley A)
- ♦ Offset screwdriver T10409- (tensioning pulley B)
- ♦ Socket wrench XZN 10 T10385-
- ♦ Pliers for spring-type clips



Note

- There are 2 versions of tensioning pulleys installed, which can be exchanged.
- ◆ The versions differ by the reverse direction of rotation when tensioning. During adjusting work, first check which version of tensioning pulley is installed and then ensure the correct rotation direction of the eccentric element when tensioning the belt <u>⇒ page 73</u>.

Removing

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Caution

When undertaking all installation work, particularly in the engine compartment due to its cramped construction, please observe the following:

- ◆ If the toothed belt is replaced when carrying out engine repair (apart from regular change interval), it should be entered in the Service Schedule!
- Lay lines of all kinds (for example, for fuel, hydraulic fluid, cooling fluid and refrigerant, brake fluid, vacuum) and electrical lines in such a way that the original line guide is re-established.
- ◆ To avoid damage to lines/wiring, ensure sufficient clearance to all moving or hot components.



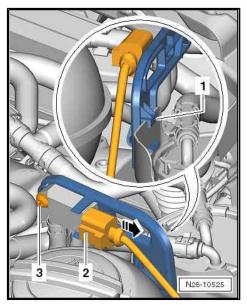


Note

- Safety precautions when working on the fuel supply system *⇒ "2 Safety instructions", page 3* .
- Observe rules for cleanliness *⇒ "3.1 Rules of cleanliness", page 7* .
- Put the shift lever into Neutral in order to turn the crankshaft.
- Switch off ignition and pull out ignition key.
- Remove engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11.
- Remove V-ribbed belt ⇒ "1.1 Assembly overview - V-ribbed belt", page 60.

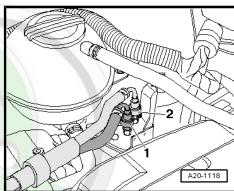
For vehicles Fabia II, Roomster, Rapid NH with engine identification characters CAYB, CAYC

- Disconnect the plug connection -2- at the differential pressure sender - G505-1.
- Release screw -3- and remove differential pressure sender -G505- from bracket.
- Place the differential pressure sender G505- with line to the rear.



Continued for all vehicles

- Separate fuel feed line -2- and fuel return-flow line -1-, to do so press the release buttons. Unlock the quick coupling and disconnect
 - ⇒ "2.10 Separating push-on couplings", page 343.
- Collect the fuel which flows out with a cloth.

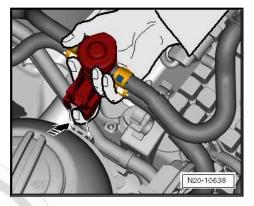






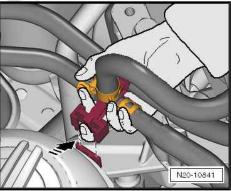
For vehicles Fabia II, Roomster, Rapid NH

 Unlock the catch peg with a finger and pull the fuel preheating valve upwards out of the guide of the coolant expansion bottle.



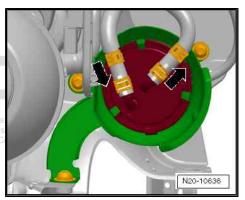
For Rapid India vehicles

Unlock the catch peg with a finger and pull the T-piece upwards out of the guide from the coolant expansion bottle.

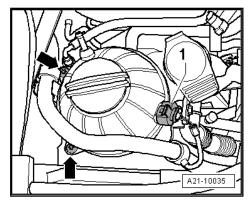


Continued for all vehicles

- Unclip the fuel line from the plastic holders.
- Push the catch pegs up and remove the fuel filter towards the top.
- Place the fuel filter and the fuel hoses together with the fuel preheating valve on the engine.
- Remove fuel filter bracket authorised by ŠKODÁ AUTO A. S. ŠKODA AUTO A. S. doe
 with respect to the correctness of information in this document.



- Unscrew the screws of the coolant expansion bottle -arrows-.
- Remove the plug -1- from the expansion bottle and push the expansion bottle to the side.





- Remove top part of toothed belt guard; to do so release retaining clips -arrows-.
- Remove vibration dampener ⇒ "1.4 Removing and installing vibration dampener", <u>page 78</u> .



Note

Do not lock tensioning element for V-ribbed belt.

- Unscrew screws -arrows-.
- Remove bottom toothed belt guard.
- Remove the engine support before exchanging the tensioning pulley and removing and installing the toothed belt.



Note

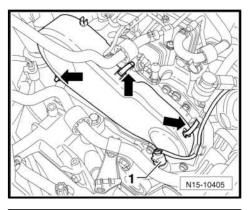
- The assembly bracket must only be removed if the engine is supported with the supporting device - MP9-200 (10-222A)-, if necessary -T30099- !
- Only release the engine support if the assembly bracket is removed.
- Remove engine support ⇒ "1.7.1 Removing and installing engine support, Fabia II, Roomster, Rapid India, Rapid NH", page 46.
- Rotate the crankshaft on TDC in direction of rotation of the engine and remove the crankshaft timing belt sprocket with the crankshaft arrester - T10050- . Slide the crankshaft arrester from the front side of the toothed belt sprocket into its teeth.

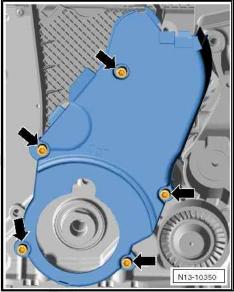


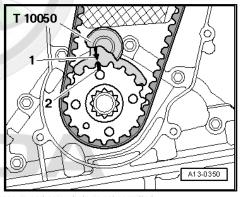
Note

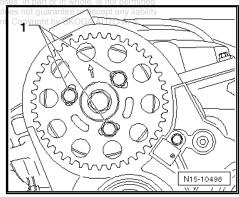
The markings on the crankshaft - toothed belt sprocket -2- and on the crankshaft arrester - T10050--1- must be aligned. While doing so, the stud of the crankshaft arrester - T10050- must engage in the hole of the sealing flange.

The arrow on the camshaft sprocket must be close to the »12 o'clock« position.



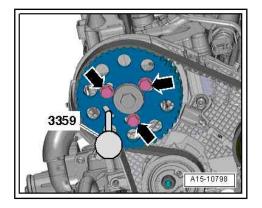




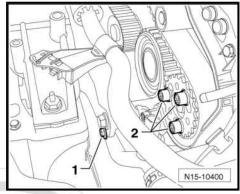


Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

Slacken the screws -arrows- for the camshaft sprocket by approx. 90°.

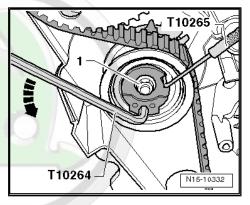


Slacken the screws -2- for the toothed belt sprocket at the high pressure pump by approx. 90° using the socket insert XZN 10 - T10385- .

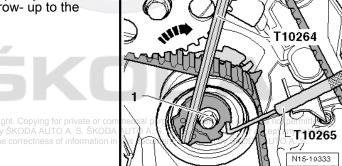


Tensioning pulley A

- Loosen nut -1- for tensioning pulley.
- Turn the eccentric of the tensioning pulley with the offset screwdriver - T10264- in -direction of arrow- (anti-clockwise), until the tensioning pulley can be interlocked with the rig tool - T10265- .



Afterwards, turn the eccentric of the tensioning pulley with the offset screwdriver - T10264- in -direction of arrow- up to the stop and tighten nut -1- by hand.





Tensioning pulley B

- Loosen nut -1- for tensioning pulley.
- Turn the eccentric of the tensioning pulley in -direction of arrow- (clockwise) using the offset screwdriver -T10409- until the tensioning pulley is slackened (eccentric element in approx. 9 o'clock position) and tighten the nut -1by hand.

Proceed as follows for both tensioning pulleys



Caution

When installing, risk of damage through reversing the rotation direction of an already used toothed belt.

- If the toothed belt is re-installed, mark the direction of rotation with chalk or a felt-tip pen before removing it.
- First of all remove the toothed belt from the large guide pulley and then from the remaining toothed belt gears.

Installing (set the timing)



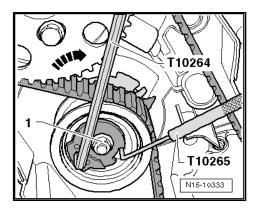
Note

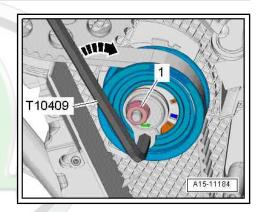
- Adjusting work on the timing belt must only be performed on a cold engine, as the position of the pointer at the tensioning element is temperature dependent.
- If it is intended to replace the tensioning pulley, the engine support must be removed <u>'1.7.1 Removing and installing engine support, Fabia II, </u> Roomster, Rapid India, Rapid NH", page 46
- Replace the fixing screws for the camshaft sprocket and the toothed belt sprocket on the high pressure pump.

Conditions

Tensioning pulley A

Tensioning pulley locked with rig tool - T10265- and fixed with nut up to right stop.

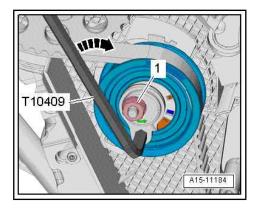




Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

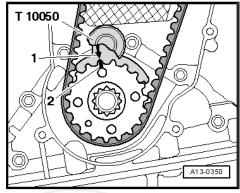
Tensioning pulley B

- The tensioner of the tensioning pulley is in the 9 o'clock posi-
- The nut -1- of the tensioning pulley is tightened to 2 up to 4

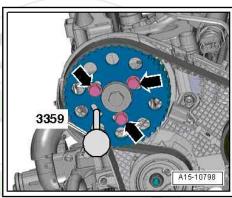


Proceed as follows for both tensioning pulleys

- Lock the crankshaft with the crankshaft arrester T10050-.
- The screws for the camshaft sprocket are replaced and loosely tightened. It must still be possible to just turn the toothed belt sprocket, however it must not hang loose.



Lock the hub of the camshaft with the rig pin for diesel injection pump - 3359- . To do so, slide the rig pin through the open elongated hole on the outside of the cylinder head.

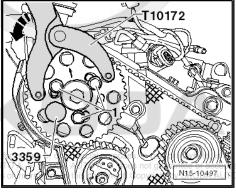




Note

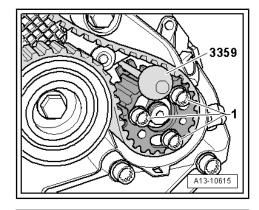
If necessary, turn the hub of the camshaft using the counterholder - T10172- and the adapters - T10172/4- until it can be arrested. To do so tighten at least one fixing screw -1- by hand.

Loosen again the screws which were tightened by hand -arrows-.





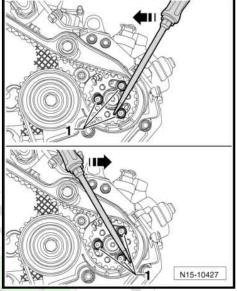
Lock the hub of the high pressure pump with the rig pin for diesel injection pump - 3359-. To do so, insert the rig pin into the hole of the timing belt gear from the outside.





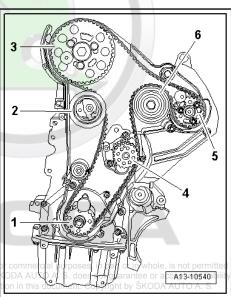
Note

If necessary, use a screwdriver to turn the hub of the high pressure pump at the screw heads -1- until the hub can be locked with the rig pin.



- Turn the camshaft sprocket -3- and the toothed belt sprocket on the high pressure pump -5- clockwise in their elongated holes as far as the stop.
- Fit the timing belt in the following order.
- 1 -Crankshaft toothed belt sprocket
- 2 -Tensioning pulley
- Camshaft toothed belt pulley 3 -
- 4 -Coolant pump toothed belt pulley
- 5 -Toothed belt pulley high pressure pump
- Guide pulley

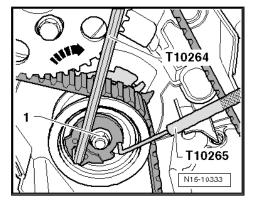






Tensioning pulley A

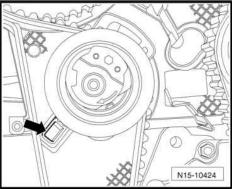
Loosen nut -1- for tensioning pulley and remove rig tool -T10265-.



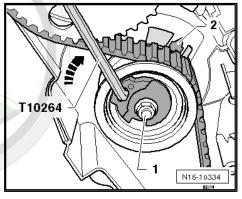


Note

Make sure that the tensioning pulley is fitted correctly in the rear toothed belt guard -arrow-.

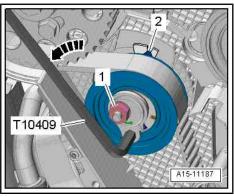


- Turn the eccentric of the tensioning pulley with the offset screwdriver - T10264- clockwise -arrow- until the pointer -2- is in the centre of the base plate in front of the gap.
- The nut -1- must not turn along.
- Hold tensioning pulley in this position and tighten nut -1-. Tightening torque: 20 Nm + 45°



Tensioning pulley B

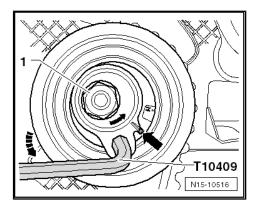
Carefully turn the eccentric of the tensioning pulley with the offset screwdriver - T10409- anti-clockwise and position the pointer -2- in the centre of the base plate in the gap. Ensure that the fixing nut -1- does not turn along.





The markings -arrow- on the eccentric element and the tensioning pulley are nearly aligned.

 Hold tensioning pulley in this position and tighten nut -1-. Tightening torque: 20 Nm + 45°



Proceed as follows for both tensioning pulleys

- Fit counterholder T10172- with bolts T10172/4- onto camshaft sprocket and press in -direction of arrow-.
- Maintain pre-tensioning and initially tighten screws -1- for camshaft sprocket to 20 Nm.



Note

The screws for the camshaft sprocket must be turned further after completion of setting and after timing testing ⇒ page 107.

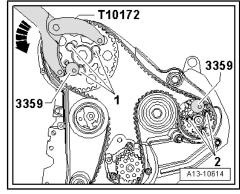
Tighten screws -2- for toothed belt pulley on the high pressure pump. For this purpose, counterhold the camshaft timing gear using the counterholder - T10172- with bolts - T10172/9-

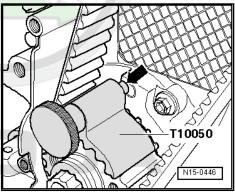
Tightening torque: 20 Nm

Remove rig pins for diesel injection pump - 3359- and crankshaft arrester - T10050- .

Test timing:

- Turn the crankshaft at the screw for timing belt gear 2 turns in the direction of rotation of the engine until the crankshaft is positioned shortly before TDC for cylinder 1.
- Position again the crankshaft arrester T10050- on the crankshaft timing belt sprocket.
- Turn the crankshaft in the direction of rotation of the engine until the bolt -arrow- of the crankshaft arrester engages during this rotary movement in the sealing flange.





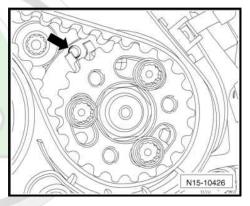




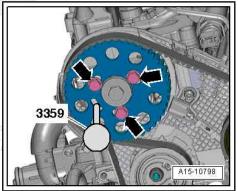
Note

The removal of the crankshaft and camshaft is limited in the following test. The removal point of the hub of the high pressure pump is always difficult to find again. A slight difference -arrowdoe's not influence the engine running.

Conditions







- The hub of the camshaft must be locked with the rig pin for diesel injection pump - 3359-.
- The pointer of the tensioning pulley -2- must be in the area -a- of the base plate -1-.

If the conditions are not fulfilled:

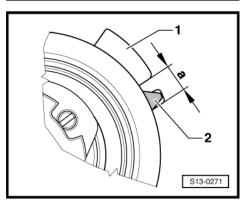
Correct timing ⇒ page 106.

If the conditions are fulfilled:

Continued if the timing is correctly set \Rightarrow page 107.

Correct timing:

- Push the crankshaft arrester T10050- until its locking bolt pushes out of the hole in the sealing flange.
- Turn out the crankshaft slightly against the running direction of the engine before the TDC for cylinder 1.
- Now slowly turn the crankshaft in the running direction of the engine, until the hub of the camshaft can be locked during this rotary movement with the rig pin for the injection pump - 3359-.
- Slacken the fixing screws for the camshaft sprocket on the locked hub of the camshaft sprocket.





Check the position of the bolt -arrow- of the crankshaft arrester T10050- to the hole in the sealing flange:

If the bolt-arrow- of the crankshaft arrester - T10050- is positioned to the left of the hole:

- Slowly turn the crankshaft in the direction of rotation of the engine until the bolt of the crankshaft arrester - T10050- engages into the hole in the sealing flange.
- First tighten the fixing screws for the camshaft toothed belt sprocket to 20 Nm.



Note

The screws must be further turned according to the setting of the timing ⇒ page 107.

If the bolt of the crankshaft arrester - T10050- is positioned to the right behind the hole:

- First of all turn the crankshaft slightly against the direction of rotation of engine until the bolt is positioned to the left in front of the hole.
- Slowly turn the crankshaft in the direction of rotation of the engine until the bolt of the crankshaft arrester - T10050- engages into the hole in the sealing flange.
- First tighten the fixing screws for the camshaft toothed belt sprocket to 20 Nm.



Note

The screws must be further turned according to the setting of the timing ⇒ page 107.

Continued if the timing is correctly set:

- Remove rig pin 3359- and crankshaft arrester T10050- .
- Once again test timing ⇒ page 105.

If the hub of the camshaft sprocket can now be secured:

Tighten fixing screws for camshaft sprocket further 45° with a rigid wrench. Counterhold with counterholder - T10172- with bolts - T10172/4- .

Further installation:

Further installation occurs in reverse order to removal.

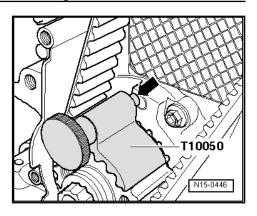
Tightening torques - summaries of components

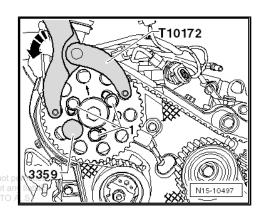


Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

Summary of components "1.2.1 Summary of components - Toothed belt drive, Fabia II, Roomster, Rapid India, Rapid NH", page 66.







1.7.2 Removing and installing toothed belt, Octavia II, Superb II, Yeti

Special tools and workshop equipment required

- ♦ Rig pin 3359- (2x)
- ◆ Crankshaft arrester T10050-
- ◆ Locking pin T10060 A-
- Counterholder T10172- with stud T10172/4- and stud -T10172/9-
- ◆ Offset screwdriver T10264- (tensioning pulley A)
- Rig tool T10265- (tensioning pulley A)
- Offset screwdriver T10409- (tensioning pulley B)
- ♦ Socket wrench XZN 10 T10385-
- Pliers for spring-type clips



Note

- ♦ There are 2 versions of tensioning pulleys installed, which can be exchanged.
- The versions differ by the reverse direction of rotation when tensioning. During adjusting work, first check which version of tensioning pulley is installed and then ensure the correct rotation direction of the eccentric element when tensioning the belt ⇒ page 73.

Removing



Caution

When undertaking all installation work, particularly in the engine compartment because of its cramped construction, please observe the following:

- If the toothed belt is replaced when carrying out engine repair (apart from regular change interval), it should be entered in the Service Schedule!
- Lay lines of all kinds (for example, for fuel, hydraulic fluid, cooling fluid and refrigerant, brake fluid, vacuum) and electrical lines in such a way that the original line guide is re-established.
- To avoid damage to lines/wiring, ensure sufficient clearance to all moving or hot components.



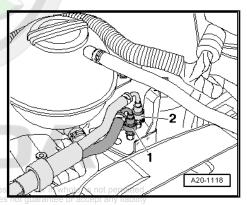
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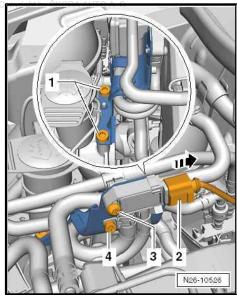


Note

- Safety precautions when working on the fuel supply system *⇒ "2 Safety instructions", page 3* .
- Observe rules for cleanliness ⇒ "3.1 Rules of cleanliness", page 7.
- The engine support does not have to be removed in order to remove the camshaft sprocket.
- ♦ On vehicles with auxiliary heating, the plug connection for the dosing pump - V54- must also be disconnected.
- Put the shift lever into neutral position or the selector lever into position "N" in order to turn the crankshaft.
- Switch off ignition and pull out ignition key.
- Remove engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11.
- Remove the sound dampening system ⇒ Body Work; Rep. gr. 50.
- Detach fuel feed line -2- and fuel return-flow line -1-, to do so press in securing ring. Unlock the quick coupling and disconnect ⇒ "2.10 Separating push-on couplings", page 343.



Disconnect the plug from the differential pressure sender -G505- and unscrew the fixing screws -1-.



Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- Slacken line -1- for differential pressure sender G505- with bracket from top timing belt guard.
- Remove the bracket with the differential pressure sender -G505- and place it to the rear.



Caution

Risk of damage!

- The differential pressure indicator G505- is very sensitive and must not touch somewhere when laying it down with the bracket.
- N15-10495

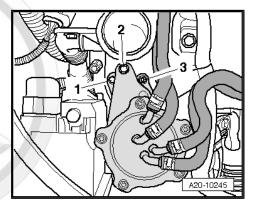
- Unscrew bolt -1-.
- Push the filler tube with the filler neck -2- for the washer-fluid reservoir to the side.



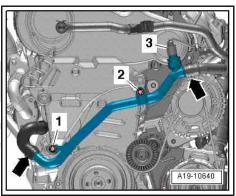
Note

For reasons of clarity the fuel filter is not shown.

- Unplug connector from expansion reservoir.
- Unscrew screw for expansion reservoir.
- Release screw -1- by two turns.
- Release screw -2- and nut -3-.
- Unclip bracket for coolant line at fuel filter.
- Lay the compensation bottle with the hoses connected and the fuel filter with the hoses connected onto the engine.
- A92-10118



- Disconnect plug -3- at the coolant temperature sender at radiator outlet - G83- .
- Unscrew nut -1- and screw -2-.
- Press the right coolant pipe with the hoses connected -arrows- to the side.





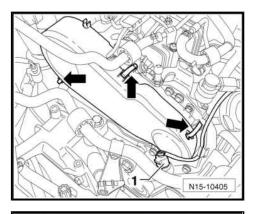
- Remove top part of toothed belt guard; to do so release retaining clips -arrows-.
- Remove vibration dampener ⇒ "1.4 Removing and installing vibration dampener", <u>page 78</u> .

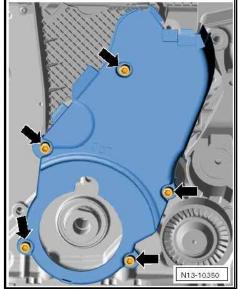


Note

Do not lock tensioning element for V-ribbed belt.

- Unscrew screws -arrows-.
- Remove bottom toothed belt guard.





Rotate the crankshaft on TDC in direction of rotation of the engine and remove the crankshaft timing belt sprocket with the crankshaft arrester - T10050- . To do so, slide the crankshaft arrester from the front side of the timing belt sprocket into its teeth.

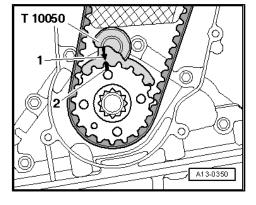


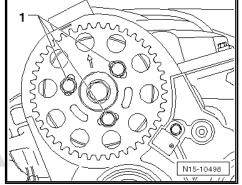
Note

The markings on the crankshaft toothed belt sprocket -2- and crankshaft arrester - T10050- -1- must face each other. While doing so, the stud of the crankshaft arrester - T10050- must engage in the hole of the sealing flange.

The arrow on the camshaft sprocket must be close to the »12 o'clock« position.

- It marks the direction of running of the timing belt.

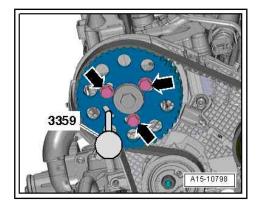




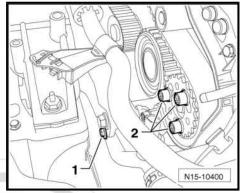
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Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

Slacken the screws -arrows- for the camshaft sprocket by approx. 90°.

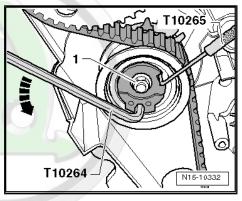


Slacken the screws -2- for the toothed belt sprocket at the high pressure pump by approx. 90° using the socket insert XZN 10 - T10385- .

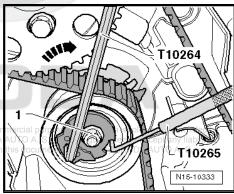


Tensioning pulley A

- Loosen nut -1- for tensioning pulley.
- Turn the eccentric of the tensioning pulley with the offset screwdriver - T10264- in -direction of arrow- (anti-clockwise) until the tensioner pulley can be interlocked with the extractor - T10265- .



Afterwards, turn the eccentric of the tensioning pulley with the offset screwdriver - T10264- in -direction of arrow- up to the stop and tighten nut -1- by hand.





Tensioning pulley B

- Loosen nut -1- for tensioning pulley.
- Turn the eccentric of the tensioning pulley in -direction of arrow- (clockwise) using the offset screwdriver -T10409- until the tensioning pulley is slackened (eccentric element in approx. 9 o'clock position) and tighten the nut -1by hand.

Proceed as follows for both tensioning pulleys



Caution

When installing, risk of damage through reversing the rotation direction of an already used toothed belt.

- If the toothed belt is re-installed, mark the direction of rotation with chalk or a felt-tip pen before removing it.
- First of all remove the toothed belt from the large guide pulley and then from the remaining toothed belt gears.

Installing (set the timing)



Note

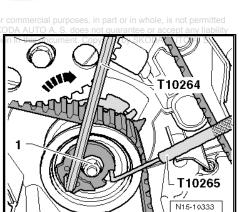
- Adjusting work on the timing belt must only be performed on a cold engine, as the position of the pointer at the tensioning element is temperature dependent.
- If it is intended to replace the tensioning pulley, the engine mount must be removed "1.7.3 Removing and installing engine support bracket, Octavia II, Yeti", page 55
- Replace the fixing screws for the camshaft sprocket and the toothed belt sprocket on the high pressure pump.

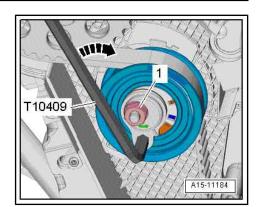
Conditions

Tensioning pulley A

Tensioning pulley locked with rig tool - T10265- and fixed with nut up to right stop.

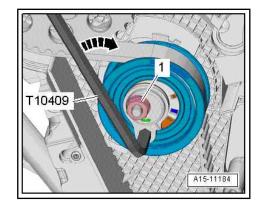






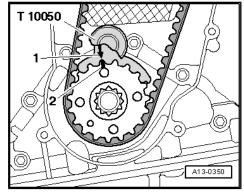
Tensioning pulley B

- The tensioner of the tensioning pulley is in the 9 o'clock position.
- The tensioning pulley is loose and the nut -1- is tightened to 2 up to 4 Nm.

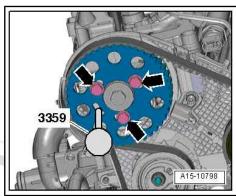


Proceed as follows for both tensioning pulleys

- · Lock the crankshaft with the crankshaft arrester T10050- .
- The screws for the camshaft sprocket are replaced and loosely tightened. It must still be possible to just turn the toothed belt sprocket, however it must not hang loose.



 Lock the hub of the camshaft with the rig pin for diesel injection pump - 3359-. To do so, slide the rig pin through the open elongated hole on the outside of the cylinder head.

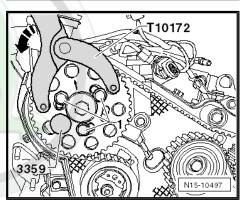




Note

If necessary, turn the hub of the camshaft using the counterholder - T10172- and the adapters - T10172/4- until it can be arrested. To do so tighten at least one fixing screw -1- by hand.

 Loosen again the screws which were tightened by hand -arrows-.

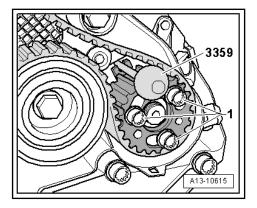




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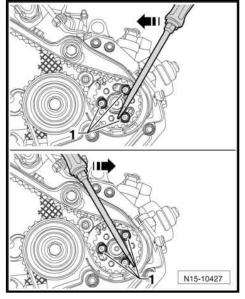
Lock the hub of the high pressure pump with the rig pin for diesel injection pump - 3359- . To do so, insert the rig pin into the hole of the timing belt gear from the outside.



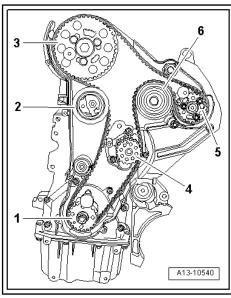


Note

If necessary, use a screwdriver to turn the hub of the high pressure pump at the screw heads -1- until the hub can be locked with the rig pin.



- Turn the camshaft sprocket -3- and the toothed belt sprocket on the high pressure pump -5- clockwise in their elongated holes as far as the stop.
- Fit the timing belt in the following order.
- 1 -Crankshaft toothed belt sprocket
- 2 -Tensioning pulley
- Camshaft toothed belt pulley 3 -
- Coolant pump toothed belt pulley 4 -
- 5 -Toothed belt pulley high pressure pump
- Guide pulley 6 -

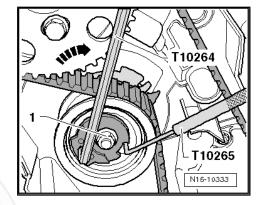






Tensioning pulley A

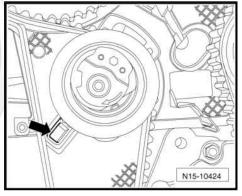
Loosen nut -1- for tensioning pulley and remove rig tool -T10265-.





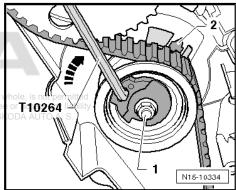
Note

Make sure that the tensioning pulley is fitted correctly in the rear toothed belt guard -arrow-.



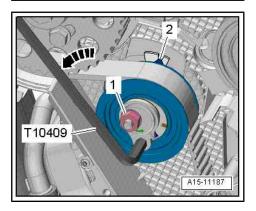
- Turn the eccentric of the tensioning pulley with the offset screwdriver - T10264- clockwise -arrow- until the pointer -2- is in the centre of the base plate in front of the gap.
- The nut -1- must not turn along.
- Hold tensioning pulley in this position and tighten nut -1-.

Protected by copyright. Copying for private or commercial purposes, in part or in Tightening torque: 20 Nmy+ 45 A AUTO A. S. ŠKODA AUTO A. S. does not guaran



Tensioning pulley B

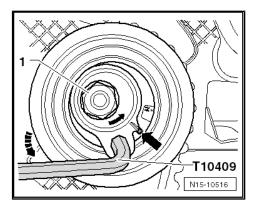
Carefully turn the eccentric of the tensioning pulley with the offset screwdriver - T10409- anti-clockwise and position the pointer -2- in the centre of the base plate in the gap. Ensure that the fixing nut -1- does not turn along.





The markings -arrow- on the eccentric element and the tensioning pulley are nearly aligned.

 Hold tensioning pulley in this position and tighten nut -1-. Tightening torque: tighten to 20 Nm 45 °.



Proceed as follows for both tensioning pulleys

- Fit counterholder T10172- with bolts T10172/4- onto camshaft sprocket and press in -direction of arrow-.
- Maintain pre-tensioning and initially tighten screws -1- for camshaft sprocket to 20 Nm.



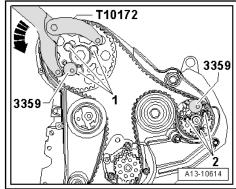
Note

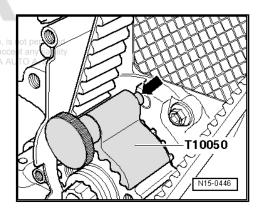
The screws for the camshaft sprocket must be turned further after completion of setting and after timing testing ⇒ page 119.

- Tighten screws -2- for toothed belt pulley on the high pressure pump. For this purpose, counterhold the camshaft timing gear using the counterholder - T10172- with bolts - T10172/9-.
 - Tightening torque: 20 Nm.
- Remove rig pins for diesel injection pump 3359- and crankshaft arrester - T10050- .

Test timing:

- Turn the crankshaft at the screw for timing belt gear 2 turns in the direction of rotation of the engine until the crankshaft is positioned shortly before TDC for cylinder 1.
- Position again the crankshaft arrester T10050- on the crankshaft timing belt sprocket.
- Turn the crankshaft in the direction of rotation of the engine until the bolt -arrow- of the crankshaft arrester engages during this rotary movement in the sealing flange.





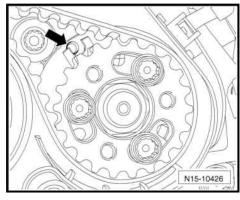


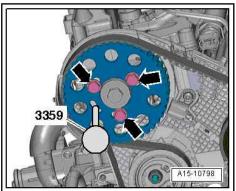


Note

The removal of the crankshaft and camshaft is limited in the following test. The removal point of the hub of the high pressure pump is always difficult to find again. A slight difference -arrowdoes not influence the engine running.

Conditions





- The hub of the camshaft must be locked with the rig pin for diesel injection pump - 3359-.
- The pointer of the tensioning pulley -2- must be in the area -a- of the base plate -1-.

If the conditions are not fulfilled:

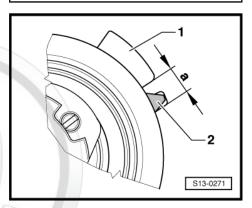
Correct timing ⇒ page 118.

If the conditions are fulfilled:

Continued if the timing is correctly set <u>⇒ page 119</u>.

Correct timing:

- Push the crankshaft arrester T10050- until its locking bolt pushes out of the hole in the sealing flange.
- Turn out the crankshaft slightly against the running direction of the engine before the TDC for cylinder 1.
- Now slowly turn the crankshaft in the running direction of the engine, until the hub of the camshaft can be locked during this rotary movement with the rig pin for the injection pump - 3359-.
- Slacken the fixing screws for the camshaft sprocket on the locked hub of the camshaft sprocket.





Check the position of the bolt -arrow- of the crankshaft arrester - T10050- to the hole in the sealing flange:

If the bolt-arrow- of the crankshaft arrester - T10050- is positioned to the left of the hole:

- Slowly turn the crankshaft in the direction of rotation of the engine until the bolt of the crankshaft arrester - T10050- engages into the hole in the sealing flange.
- First tighten the fixing screws for the camshaft toothed belt sprocket to 20 Nm.



Note

The screws must be further turned according to the setting of the timing ⇒ page 119.

If the bolt of the crankshaft arrester - T10050- is positioned to the right behind the hole:

- First of all turn the crankshaft slightly against the direction of rotation of engine until the bolt is positioned to the left in front of the hole.
- Slowly turn the crankshaft in the direction of rotation of the engine until the bolt of the crankshaft arrester - T10050- engages into the hole in the sealing flange.
- First tighten the fixing screws for the camshaft toothed belt sprocket to 20 Nm.



Note

The screws must be further turned according to the setting of the timing ⇒ page 119.

Continued if the timing is correctly set:

- Remove rig pin 3359- and crankshaft arrester T10050- .
- Once again test timing ⇒ page 117.

If the hub of the camshaft sprocket can now be secured:

Tighten fixing screws for camshaft sprocket further 45° with a rigid wrench. Counterhold with counterholder - T10172- with bolts - T10172/4- .

Further installation:

Further installation occurs in reverse order to removal.

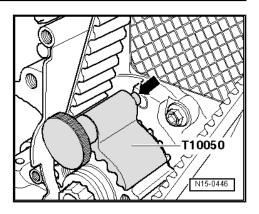
Tightening torques - summaries of components

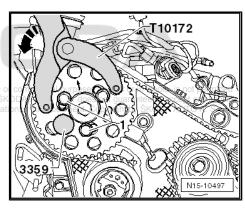


Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

Summary of components "1.2.2 Summary of components - Toothed belt drive, Octavia II, Superb II, Yeti", page 70







2 Sealing flanges and flywheel

- ⇒ "2.1 Summary of components sealing flange and flywheel", page 120
- ⇒ "2.2 Replacing crankshaft sealing ring on the belt pulley side", page 121
- ⇒ "2.3 Removing and installing the sealing flange on the belt pulley side", page 123
- ⇒ "2.4 Replace sealing flange on the gearbox side", page 125
- ⇒ "2.5 Removing and installing flywheel", page 132

2.1 Summary of components - sealing flange and flywheel



Note

- Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.
- ♦ Repairs to the clutch ⇒ Gearbox; Rep. gr. 30.

1 - Sealing ring

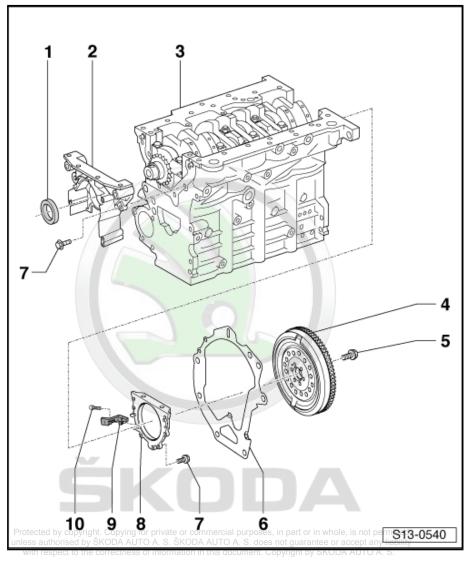
- □ Replace ⇒ "2.2 Replacing crankshaft sealing ring on the belt pulley side", page 121
- do not oil or grease

2 - Sealing flange on the belt pulley side

- must be positioned on dowel sleeves
- □ Removing and installing ⇒ "2.3 Removing and installing the sealing flange on the belt pulley side", page 123
- □ Replace crankshaft seal on belt pulley side ⇒ "2.2 Replacing crankshaft sealing ring on the belt pulley side", page 121

3 - Cylinder block

- □ removing and installing crankshaft
 ⇒ "3.2 Removing and installing crankshaft",
 page 138
- Disassembling and assembling pistons and conrods
 ⇒ "3.1 Assembly overview piston and conrod", page 134



4 - Flywheel

- □ Removing and installing ⇒ "2.5 Removing and installing flywheel", page 132
- assembly is only possible in one position through offset holes
- □ Vehicles with two-mass flywheel: check function ⇒ Vehicle diagnostic tester

5 - Screw

- □ Replace after disassembly
- □ 60 Nm + 90°

6 - Intermediate plate

- ☐ must be positioned on dowel sleeves
- do not damage/bend during assembly work
- □ hang on the sealing flange ⇒ page 121

7 - Screw

□ 15 Nm

8 - Sealing flange on the gearbox side

- acan only be replaced complete with gasket ring and with rotor of engine speed sender G28-
- □ Replace ⇒ "2.4 Replace sealing flange on the gearbox side", page 125

9 - Engine speed transmitter - G28-

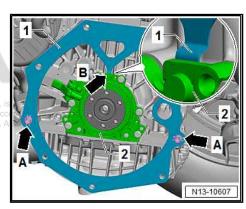
□ Removing and installing ⇒ "1.4 Removing and installing the engine speed transmitter G28", page 429

10 - Screw

□ 5 Nm

Install intermediate plate

Mount intermediate plate -1- on sealing flange -2- arrow -Band push onto the dowel sleeves arrows -A-.



2.2 Replacing crankshaft sealing ring on the belt pulley side

Special tools and workshop equipment required

- ◆ Counterholder T30004 (3415)-
- ♦ Sealing ring extractor MP 1-226 (3203)-
- ◆ Assembly tool T10053-

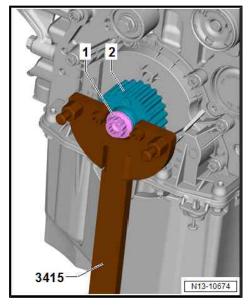
Removing

- Engine installed.
- Remove toothed belt

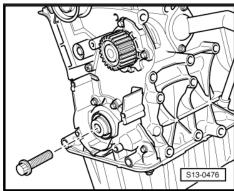
⇒ "1.7 Removing and installing toothed belt", page 96.



Remove crankshaft - toothed belt sprocket, to this end lock toothed belt sprocket with counterholder - T30004 (3415)-..



To guide the gasket ring extractor, screw the central screw for the crankshaft toothed belt sprocket into the crankshaft by hand up to the stop.



- Turn inner part of gasket ring extractor MP 1-226 (3203)- two turns (approx. 3 mm) out of the outer part and lock with knurled screw.
- Oil the thread head of the sealing ring extractor, position and fix screw into the sealing ring as far as possible.
- Release knurled screw and turn the inner side against the crankshaft until the gasket ring is pulled out.
- Clamp gasket ring extractor into the vice and remove gasket ring with pliers.
- Clean the contact and sealing surfaces.

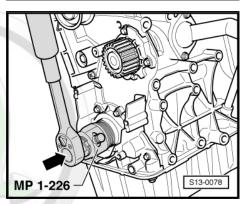
Installing



Note

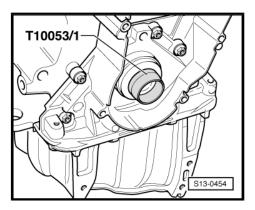
Do not oil the sealing lip and the outer surface of the gasket ring before the pressing in procedure.

Remove oil residue on the crankshaft journal with a clean cloth.





- Insert guide bushing T10053/1- on the crankshaft bearing
- Slide gasket ring over the guide bushing.



Press in the gasket ring flush with the central screw for the crankshaft toothed belt sprocket and with the pressure bushing of the assembly device - T10053-.



Note

- There must not be any oil present on the contact surface between toothed belt sprocket and crankshaft.
- Replace central screw for crankshaft toothed belt sprocket.
- Do not oil the central screw for crankshaft toothed belt sprocket.
- Install crankshaft toothed belt sprocket; to do so, lock toothed belt sprocket with counterholder.
- Install the toothed belt ⇒ "1.7 Removing and installing toothed belt", page 96.

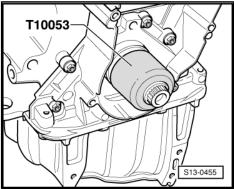
2.3 Removing and installing the sealing flange on the belt pulley side

Special tools and workshop equipment required

- ◆ Counterholder T30004 (3415)-
- ♦ Assembly tool T10053-
- Protective goggles and gloves
- Sealant remover Gasket Stripper (stock code GST, stock item No. R 34402), manufacturer Retech s.r.o.
- ◆ Cleaning and degreasing agent , e.g. -D 009 401 04-
- Silicone sealant ⇒ ETKA Electronic Catalogue of Original Parts

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- Remove toothed belt ⇒ "1.7 Removing and installing toothed belt", page 96.





Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- Remove crankshaft toothed belt sprocket, to this end lock toothed belt sprocket with counterholder - T30004 (3415)- .
- Drain engine oil:
- ♦ ⇒ Maintenance ; Booklet Fabia II .
- ♦ ⇒ Maintenance; Booklet Roomster.
- ♦ ⇒ Maintenance : Booklet Octavia II .
- ♦ ⇒ Maintenance; Booklet Superb II.
- ♦ ⇒ Maintenance ; Booklet Yeti .
- ♦ ⇒ Maintenance ; Booklet Rapid Indie .
- ♦ ⇒ Maintenance ; Booklet Rapid NH .
- Removing the oil pan
 ⇒ "1.8 Removing and installing oil pan", page 220
- Unscrew the fixing screws of the front sealing flange and remove sealing flange, if necessary release by applying slight blows with a rubber-headed hammer.
- Drive out the gasket ring from the removed sealing flange.



Assembly is carried out in the reverse order. When installing, observe the following:



WARNING

Wear protective gloves and goggles when working with gasket remover and degreasing agent!

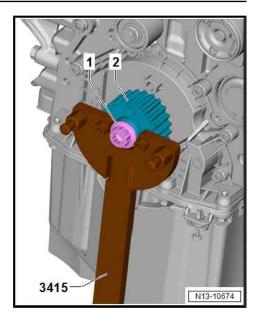
- Remove residual sealant from the sealing surfaces on sealing flange, cylinder block and on the oil pan with chemical sealant remover.
- Degrease the sealing surfaces.



Note with resp

Pay attention to the use by date on the silicone sealant.

 Cut off nozzle tube at the front marking (Ø of nozzle approx. 3 mm).





- Apply silicone sealant bead -arrow- to the clean sealing surface of the upper part of the sealing flange, as shown.
- Thickness of sealant bead -arrow-: 2...3 mm.



Note

- The sealant bead must not be thicker than 3 mm otherwise excess sealant may get into the oil pan and clog the strainer in the oil suction pipe.
- The sealing flange must be installed within 5 minutes after applying the silicone sealant.
- When installing the sealing flange with the gasket ring fitted place a guide sleeve - T10053/1- on the crankshaft journal.
- Carefully push the sealing flange onto the dowel sleeves at the cylinder block and tighten new fixing bolts by hand.
- Tighten the screws of the sealing flange alternately and crosswise.
- Installing the oil pan ⇒ "1.8 Removing and installing oil pan", page 220
- Install the new gasket ring for the crankshaft on the belt pulley side 2 Replacing crankshaft sealing ring on the belt pulley
- side", page 121 Install the toothed belt ⇒ "1.7 Removing and installing toothed belt", page 96.
- Top up with engine oil and check the oil level:
- ⇒ Maintenance ; Booklet Fabia II .
- ⇒ Maintenance; Booklet Roomster.
- ⇒ Maintenance ; Booklet Octavia II .
- ⇒ Maintenance ; Booklet Superb II .
- ⇒ Maintenance; Booklet Yeti.
- ⇒ Maintenance; Booklet Rapid Indie.
- ⇒ Maintenance ; Booklet Rapid NH

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

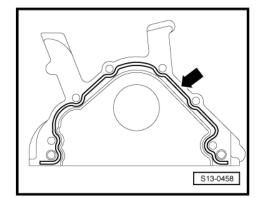
Sealing flange on the belt pulley side ⇒ "2.1 Summary of components - sealing flange and flywheel", page 120 .

2.4 Replace sealing flange on the gearbox

Special tools and workshop equipment required

- Assembly tool T10134-
- Feeler gauge



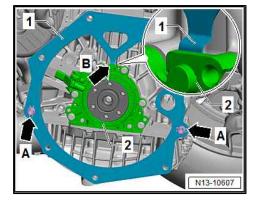


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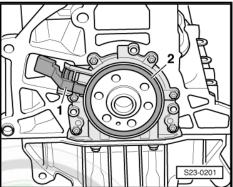
- Steel straightedge
- Screw M6 x 35 (3x)
- Screw M7 x 35 (2x)

Removing

- Gearbox removed.
- Remove the flywheel ⇒ "2.5 Removing and installing flywheel", page 132.
- Remove intermediate plate from the dowel sleeves arrows -A- and detach from sealing flange arrow -Pfeil B-.
- Position crankshaft to TDC for cylinder 1 ⇒ "1.7 Removing and installing toothed belt", page 96.
- Removing the oil pan ⇒ "1.8 Removing and installing oil pan", page 220.



Remove engine speed sender - G28- -Pos. 1-.

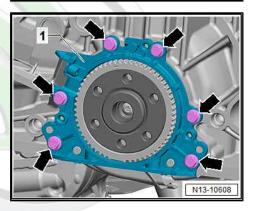


Unscrew fixing screws -arrows- of the sealing flange -1-.



Note

Sealing flange and sender wheel are pressed together by three M6 x 35 mm screws of the cylinder block.

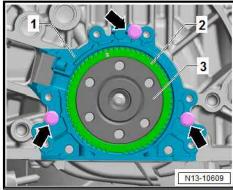






N13-10610

Alternating, screw in three screws M6x35 -arrows- (max. ¹/₂ turn (180°) per screw) into the threaded holes of the sealing flange -1- and remove the sealing flange together with the rotor -2- from the crankshaft -3-.



Installing

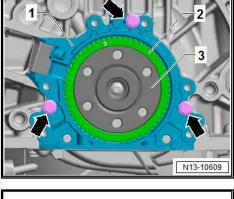


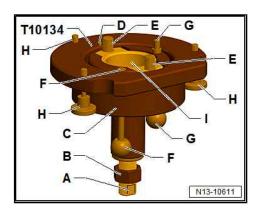
Note

- The sealing flange with a PTFE seal is equipped with a sealing lip support ring. This support ring serves as a fitting sleeve and must not be removed prior to installation.
- Do not separate or turn the sealing flange and rotor after removing them from the spare part package.
- The rotor gets its fitting location by fixing by fixing to the positioning pin of the assembly tool - T10134- .
- Sealing flange and sealing ring form one unit and must only be renewed together with the transmitter wheel.
- The rotor has an elastomer layer on its sealing surface with the crankshaft. This layer must not be brought into contact with dirt or grease.
- The assembly tool T10134- is given its fitting location to the grantee or accept any liability crankshaft by means of a guide bolt, which is guided into the how skoda Auto A.S. threaded bore of the crankshaft.

Assembly tool - T10134-

- A Clamping surface
- B Hexagon nut
- C Assembly housing
- D Locating pin
- E Allan screws (2 pieces)
- F Guide bolts for petrol engines
- G Guide bolts for diesel engines
- H Knurled screws (3 pieces)
- I Inner part







Mounting sealing ring with rotor on assembly tool - T10134-

- Untwist nut -B- until just before it touches the clamping surface -A- of the threaded spindle.



- Grip assembly tool T10134- at clamping surface -A- of the threaded spindle in a vice.
- Press assembly housing -C- downwards until it lies on hexagon nut -B-.
- Screw nut onto threaded spindle until inner part of assembly tool and assembly housing are at same height.

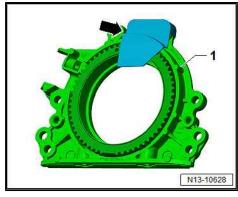


Remove the securing clip -arrow- from the new sealing flange. A S



Note

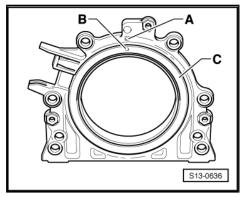
Do not remove the rotor from the sealing flange or turn it.



N13-10612

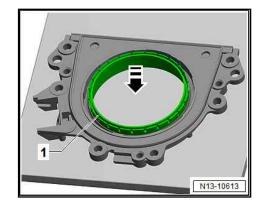
T10134

The locating hole -B- on the sender wheel -C- must be flush with the marking -A- on the sealing flange.





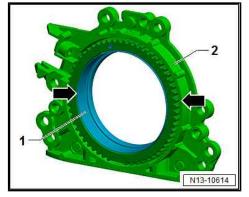
- Place sealing flange with front side facing down on a clean level surface.
- Press down sealing lip supporting ring -1- in -direction of arrow-, until it rests on the level surface.





Note

The upper edge of the sealing lip supporting ring -1- and front edge of the sealing flange -2- must align -arrows-.

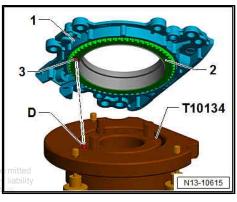


Lay the sealing flange -1- with the front side on the assembly tool - T10134- so that the positioning pin -D- engages into the hole -3- of the rotor -2-.



Note

Sealing flange must lie straight on the assembly tool.

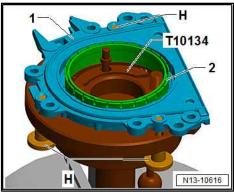


Press on the sealing flange -1- and sealing lip supporting ring -2- by tightening the 3 knurled screws -H- onto the surface of the assembly tool - T10134- .



Note

- This prevents locating pin from slipping out of sender wheel hole.
- When installing the sealing flange, ensure that the sender wheel remains fixed in the assembly device.



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1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

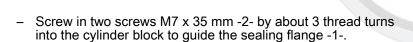
Securing the assembly tool - T10134- with sealing flange on the crankshaft flange

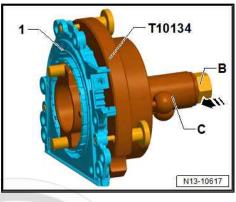
- The crankshaft flange must be free of grease and oil.
- Crankshaft is at TDC for cylinder 1.
- Screw nut -B- on until it reaches end of threaded spindle.
- Press the threaded spindle of the assembly tool T10134- in -direction of arrow- until the nut -B- rests against the assembly cup -C-.
- Align flat side of assembly housing to the cylinder block sealing surface on the oil sump side.
- Secure the assembly tool T10134- and the sealing flange -1- with Allan screws -E- to the crankshaft flange.

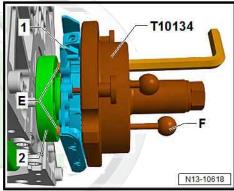


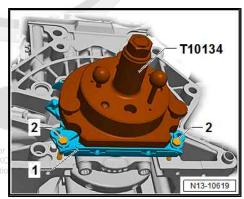
Note

Screw in Allan screws -E- into the crankshaft flange by approx. five thread turns.









Bolt assembly tool - T10134- onto crankshaft flange

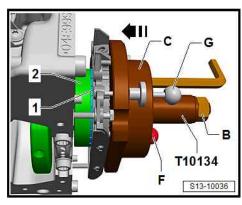
- Push the assembly cup -C- by hand in the -direction of the arrow- until the sealing lip supporting ring -1rests on the crankshaft flange -2-.
- Push guide pin for diesel engines -G- into the hole in the crankshaft. This gives the rotor its final installation position.



Note

The guide pin for petrol engines -F- must not be inserted in threaded hole of crankshaft.

- Tighten the two Allan screws hand-tight.
- Screw nut -B- onto threaded spindle by hand until it lies against assembly housing -C-.



Press transmitter wheel onto crankshaft flange using assembly tool - T10134-

Tighten nuts -B- on the assembly tool - T10134- with torque wrench to 35 Nm.



Note

After tightening the nut to 35 Nm there must still be a narrow air gap between the cylinder block and the sealing flange.

Checking transmitter wheel installation position on crankshaft

- Screw nut -B- on until it reaches end of threaded spindle.
- Unscrew bolts-2- from the intake manifold.
- Unscrew the knurled screws -H- from the sealing flange.
- Unscrew the Allan screws -E- from the crankshaft flange.
- Remove assembly tool T10134-.
- Remove sealing lip support ring.
- Place caliper gauge on crankshaft flange.



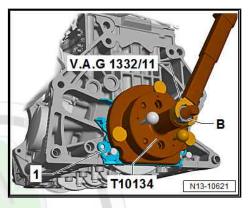
Set value: Dimension -a- = 0.5 mm.

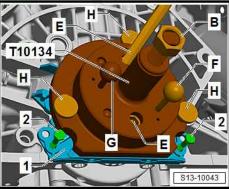
If dimension -a- is too small, press rotor down ⇒ page 132.

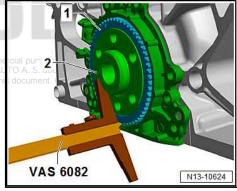
If the specified value is reached:

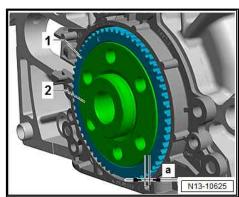
Tighten the new fixing screws of the sealing alternately crosswise.

Measure distance -a- between crankshaft flange -2- and rotor





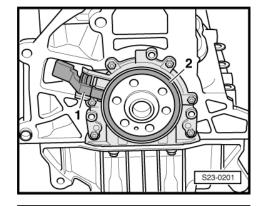






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- Install engine speed sender G28- Pos. -1-"1.4 Removing and installing the engine speed transmitter <u>G28 ", page 429</u> .
- Installing the oil pan ⇒ "1.8 Removing and installing oil pan", page 220.
- Installing intermediate plate.
- Install flywheel with new screws.



T10134

2

Re-pressing transmitter wheel

Secure the assembly tool - T10134- and with Allan screws E- to the crankshaft flange.



Note

Make sure the positioning pin of the assembly tool - T10134- engages in the bore of the rotor.

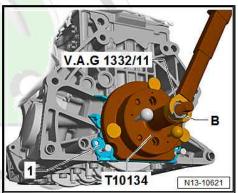
- Push guide pin for diesel engines -G- into the hole in the crankshaft up to the stop. If the guide bolt is correctly positioned, then the handle has a distance of approx. 10 mm from the assembly housing.
- Tighten the two Allan screws -E- hand-tight.
- Screw the knurled screws -H- into the flange -1-.
- Screw nut -B- onto threaded spindle by hand until it lies against the assembly housing.
- Tighten nut -B- of the assembly tool T10134- to 40 Nm.
- Check the fitting position of the rotor on the crankshaft again ⇒ page 131 .

If the dimension -a- is too small again:

- Tighten the hexagon nut of the assembly device to 45 Nm.
- Check the fitting position of the rotor on the crankshaft again ⇒ page 131 .

Tightening torques - summaries of components

Sealing flange on the gearbox side ⇒ "2.1 Summary of components - sealing flange and flywheel", page 120



S13-10043

2.5 Removing and installing flywheel

Special tools and workshop equipment required

◆ Counterholder - MP1-223 (3067)-

Removing

- Gearbox removed.
- Remove clutch on vehicles with manual gearbox ⇒ Gearbox; Rep. gr. 30.



Vehicles with two-mass flywheel

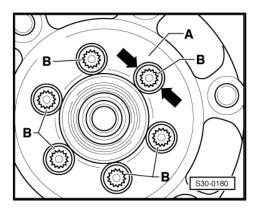
Rotate the secondary side -A- of the two-mass flywheel in such a way that the screws -B- are positioned in the middle of the holes -arrows-.



Caution

When unscrewing the screws -B-, ensure that no screw head catches on the secondary side -A- of the two-mass flywheel, otherwise it will be damaged.

Do not unscrew screws -B- using a pneumatic power wrench or impact wrench - unscrew by hand.



Continued for all vehicles

- Fitting position of the tool:
- A for tightening
- B for slackening
- Insert the counterholder MP1-223 (3067)- into the hole on the cylinder block -B-.
- Unscrew screws and remove flywheel.

Installation is carried out in the reverse order. When installing, observe the following:



Note

Screws which have been tightened firmly to a torquing angle must be replaced.

Insert the counterholder - MP1-223 (3067)- into the hole on the cylinder block -A-.

3067 N13-10563

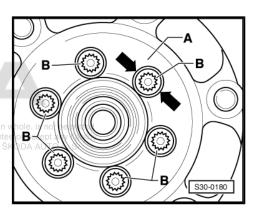
Vehicles with two-mass flywheel

Rotate the secondary side -A- of the two-mass flywheel in such a way that the screws -B- are positioned in the middle of the holes -arrows-.

Continued for all vehicles

Tighten securing bolts for flywheel step by step in the following order:

Step	Bolts	Tightening torque / torquing angle
1.	All	Screw in by hand
2.	All	60 Nm
3.	All	Turn 90° further





3 Crankshaft, Piston and Conrod

- ⇒ "3.1 Assembly overview piston and conrod", page 134
- ⇒ "3.2 Removing and installing crankshaft", page 138
- ⇒ "3.3 Replace needle bearing for crankshaft", page 139
- ⇒ "3.4 Removing and installing the piston", page 141
- ⇒ "3.5 inspect piston projection at TDC", page 142
- ⇒ "3.6 Separating new connecting rod", page 143

3.1 Assembly overview - piston and conrod

⇒ "3.1.1 Piston and cylinder dimensions", page 138



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

1 - Circlip

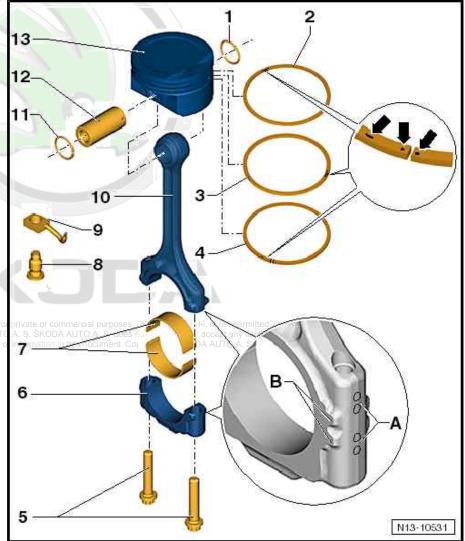
Replace after disassembly

2 - Piston ring

- Compression ring
- ☐ Offset gaps by 120°
- use piston ring pliers for removing and installing
- marking "TOP" faces piston crown
- ☐ Identification of the fitting position: "Identification using points or line" near -arrows- to the piston crown
- ☐ Check ring gap ⇒ page 136
- ☐ Check end clearance ⇒ page 136

3 - Piston ringed by copyright. Copying

- □ Compression ring rectnes
- ☐ Offset gaps by 120°
- use piston ring pliers for removing and installing
- marking "TOP" faces piston crown
- ☐ Identification of the fitting position: "Identification using points or line" near -arrows- to the piston crown
- ☐ Check ring gap
 ⇒ page 136
- Check end clearance ⇒ page 136



4 - Pi	ston ring
	Oil scraper ring
	Offset joint 120° to bottom compression ring
	use piston ring pliers for removing and installing
	marking "TOP" faces piston crown
	Identification of the fitting position: "Identification using points or line" near -arrows- to the piston crown
	Check ring gap ⇒ page 136
	Check end clearance ⇒ page 136
5 - Sc	crew
	Replace after disassembly
	Oil threads and contact surface
	30 Nm + 90°
6 - C	onnecting rod bearing cap
	cracked cover fits only in one position at the relevant conrod
	Mark the assignment to the cylinder using a colour marking -A-
	Fitting position: Markings -B- point towards the belt pulley side
7 - Be	earing shells
	Fitting position ⇒ page 138
	Do not interchange used bearing shells (mark them, but do not mark the contact surface)
	replace bearing shells that are worn through to the base layer
	Observe version: top bearing shell (towards the piston) must be made from a long lasting material, recognition feature for new bearing shells: black marking on the contact surface near the separation point
	check correct fitting
8 - Pr	ressure relief valve
	opens at 0.250.32 MPa (2.53.2 bar) overpressure
	replace without sealant
	Removing and installing ⇒ page 138
	27 Nm
9 - Oi	l spray jet
	for piston cooling
	Removing and installing ⇒ page 138
10 - C	Connecting rod
	always replace as a set only
	Mark assignment to copyling by Skoda AUTO A. S. Skoda AUTO A. S. does not guarantee or accept any liability
	Fitting position: markings B-point towards the belt pulley side opyright by SKODA AUTO A. S.
	with a split bearing cap
	separate new conrod <u>⇒ "3.6 Separating new connecting rod", page 143</u>
	Axial clearance: Wear limit 0.37 mm
11 - C	Circlip
	Replace after disassembly
12 - F	Piston pin
	If difficult to remove, heat piston to 60 °C
	use drift - VW 222A- for removing and installing
13 - F	Piston
	with combustion chamber
	Mark the installation position and the assignment to cylinder ⇒ page 137
	arrow on the piston crown faces towards the belt pulley side

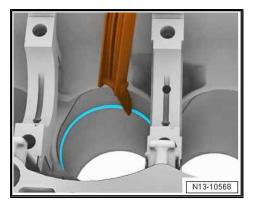
 $oldsymbol{\Box}$ replace piston if there is any sign of crack formation on the piston body



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- □ Inspecting piston ⇒ page 137
- □ Piston and cylinder dimensions <u>⇒ "3.1.1 Piston and cylinder dimensions"</u>, page 138
- ☐ inspect cylinder bore ⇒ page 137
- ☐ Install using piston ring tensioning strap
- inspect piston projection at TDC <u>⇒ "3.5 inspect piston projection at TDC"</u>, page 142
- □ Removing and installing ⇒ "3.4 Removing and installing the piston", page 141

Checking piston ring gap



Special tools and workshop equipment required

- Feeler gauge
- Insert ring at right angles from above down into lower cylinder bore, about 15 mm away from edge of cylinder. To insert use piston without rings.

Piston ring (dimensions in mm)	New	Wear limit
1st compression ring by ŠKODA AU	0.20 റെ 0.40	purposes, in part or in A. S. doe ls. 00 guarante
2nd compression ring	0.20 0.40	cument. Copyright by S 1.00
Oil scraper ring	0.25 0.50	1.00

Checking ring-to-groove clearance

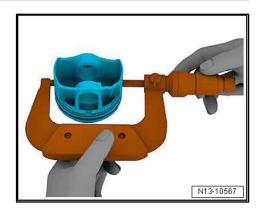


Special tools and workshop equipment required

- Feeler gauge
- Clean before inspecting the annular grooves of the piston.

Piston ring (dimensions in mm)	New	Wear limit
1st compression ring	0.06 0.09	0.25
2nd compression ring	0.05 0.08	0.25
Oil scraper ring	0.03 0.06	0.15

Inspecting piston



Special tools and workshop equipment required

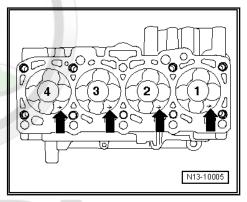
- ◆ External micrometer
- Measure about 10 mm from the lower edge, offset at right angles to the piston pin shaft.
- Maximum deviation from specified dimension: 0.04 mm.

Nominal dimension

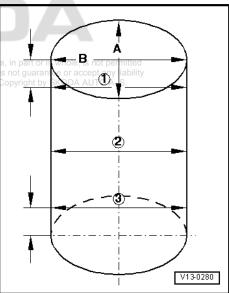
⇒ "3.1.1 Piston and cylinder dimensions", page 138

Installation position and assignment of piston/cylinder

The arrow on the piston crown -arrows- faces towards the belt pulley side.



Checking cylinder bores



Special tools and workshop equipment required

- ♦ Cylinder gauge
- Measure cylinder at 3 points crosswise in transverse direction -A- and lengthwise -B-.
- Maximum deviation from specified dimension: 0.10 mm.

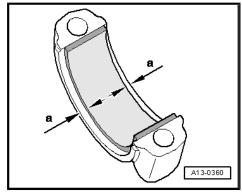
Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

Nominal dimension

'3.1.1 Piston and cylinder dimensions", page 138

Installation position of ball sockets in conrods

- Insert bearing shell in the conrod or in the center of the conrod bearing cap.
- Dimension -a- = 2.5 mm.



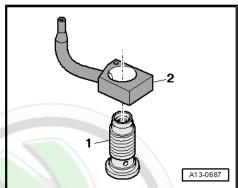
Oil spray nozzle and pressure relief valve

- Screw with pressure relief valve
- Oil spray nozzle (for cooling piston)
- Fitting position: Align the guide edge of the oil injection nozzle to the area of the cylinder block being worked on.



Note

- The oil injection nozzles must not be bent.
- Replace the oil injection nozzles if they are bent.



3.1.1 Piston and cylinder dimensions

Grinding dimen	sion	Ø piston mm	Ø cylinder bore mm
Basic dimen- sion	1.6 I	79.455 ¹⁾	79.50
	1.5 l	76.92 ¹⁾	77.010

1) Dimension with coating (thickness 0.02 mm). The coating wears off.

3.2 Removing and installing crankshaft



Note

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- To perform the assembly work the engine must be secured to the engine mount - VAS 6095- .

1 - Screw

- □ Replace after disassembly
- □ 65 Nm + 90°

2 - Bearing caps

- Bearing cap 1: belt pulley side
- Bearing cap 3: with recesses for thrust wash-
- retaining lugs of the bearing shells of the cylinder block/bearing cap must be on top of one another

3 - Bearing shell

- ☐ for cylinder block with lubricating groove
- for bearing cap without lubricating groove
- do not mix up already used bearing shells (mark)

4 - Thrust washers

- for bearing cap 3
- pay attention to locating element

5 - Needle bearing

- only on vehicles with automatic gearbox
- □ Replace ⇒ "3.3 Replace needle bearing for crankshaft". page 139

3 6 S13-0732

6 - Crankshaft

- ☐ with pinion for oil pump drive
- ☐ Axial play when new: 0.07 0.17 mm

Wear limit: 0,37 mm

- ☐ Crankshaft bearing pin: Ø 54.00 mm
- ☐ Conrod bearing pin: Ø 47.80 mm

7 - Bearing shell

- for cylinder block with lubricating groove
- for bearing cap without lubricating groove
- do not mix up already used bearing shells (mark) S. SKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by SKODA AUTO A. S.

3.3 Replace needle bearing for crankshaft

Only on vehicles equipped with automatic gearbox.

Special tools and workshop equipment required

- Centering mandrel T30029 (3176)-
- Interior extractor Kukko 21/2-
- Countersupport Kukko 22/1-





Note

For installing an engine in a vehicle with automatic gearbox, check whether the needle bearing is built on the gearbox side in the crankshaft. Install the needle bearing as required.

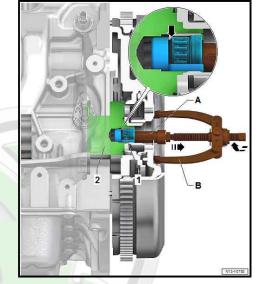
Removing

Remove needle bearing -1- with internal extractor -Kukko 21/2- -A- and countersupport -Kukko 22/1- -B- from crankshaft -2-.

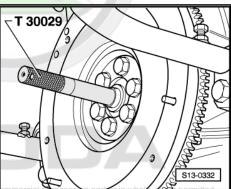
Fit the internal extractor -Kukko 21/2- behind the needle rim -arrow-.

Installing

- The marked side of the needle bearing should be visible when in its installed condition.
- Clean the bearing in the crankshaft.



Drive in the needle bearing using the centring pin - T30029



Depth of installation of the needle bearing the respect to the correctness of information

Dimension -a- = 1.5 mm



Note

If the needle roller bearing is accidentally driven too deep, it must be removed and replaced. Squeezing will damage the bearing.





3.4 Removing and installing the piston

Special tools and workshop equipment required

- ◆ Drift VW 222 A-
- Piston ring tensioning strap

Removing

- Engine secured to the assembly stand <u>'1.3 Securing the engine to the assembly stand", page 29</u> .
- Remove cylinder head ⇒ "1.5 Removing and installing cylinder head", page 160
- Removing the oil pan ⇒ "1.8 Removing and installing oil pan", page 220
- Mark the fitting position of the piston and the assignment to the cylinder ⇒ page 137
- Mark the installation position of the conrod and the assignment to the cylinder -Pos. 10-⇒ "3.1 Assembly overview - piston and conrod", page 134.
- Remove conrod bearing cap and pull out piston with conrod upwards.



Note

If stiff, heat the piston pin of the piston to about 60 °C.

- Remove the circlip from the bore of the piston pin.
- Drive off piston pin with a drift VW 222 A-.

Installing

Assembly is carried out in the reverse order. When installing, observe the following:



Note

Replace screws which have been tightened firmly to a torque anglė.

- Lubricate the contact surfaces of the bearing shells.
- Install piston with piston ring tensioning strap.

Fitting position:

- Piston ⇒ page 137
- PeotecBearing ishells in the conrods page 138 part or in whole, is not permitted
- Install the conrod bearing cap according to the markings. A.S.

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

Conrod bearing cap ⇒ "3.1 Assembly overview - piston and conrod", page 134 .



3.5 inspect piston projection at TDC



Note

- When installation a new piston or engine part, you must check the piston protrusion in the "TDC".
- If different values are measured from projection measurement of the pistons, the highest value applies for the cylinder head seal assignment.
- Depending on the piston projection fit the relevant cylinder head seal in accordance with the table below:

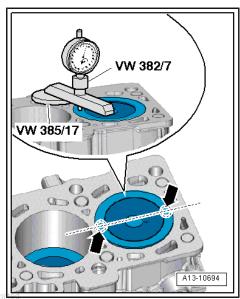
Special tools and workshop equipment required

- Measuring bridge MP3-404/7 (VW382/7)-
- Gauge block plate MP3-405/17 (VW385/17)-
- Dial gauge VAS 6079-

Test sequence

- gauge VAS 6079- with measuring bridge MP3-404/7 (VW382/7)- and measuring plate - MP3-405/17 (VW385/17)- attach to cylinder block as shown in the picture
- Measure the supernatant on each piston at the two locations indicated by -arrows-. Measure in the longitudinal direction of the engine at the rear and at the front of the piston.
- For piston protrusion, the corresponding cylinder head gasket must be installed according to the following table:

Piston projection over cylinder block top side mm	Identification Holes
0.91 1.00	1
1.01 1.10	2
1.11 1.20	3



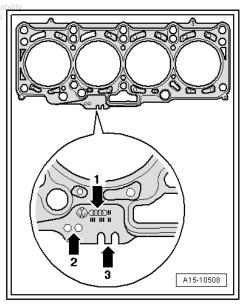
Identification of the cylinder head gasket locument. Copyright by ŠKODA AUTO Á

- Part number = arrow -1-
- Bores arrow -2-
- Arrow -3- (ignore)



Note

If different values are measured during the projection measurement of the piston, the greatest dimension applies for the seal assignment.





3.6 Separating new connecting rod

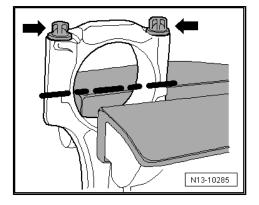
It can happen that on new conrods, the provided separation point is not completely cracked. If the connecting rod bearing cap cannot be removed by hand, then proceed as follows:

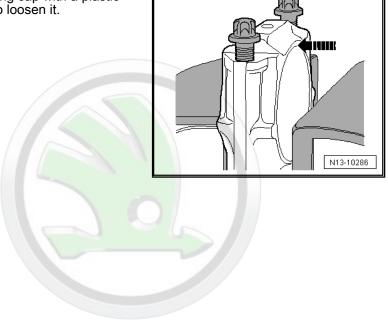
- Mark the assignment of the connecting rod to the cylinder.
- Slightly clamp the conrod, as shown in the illustration, in a vice with aluminium protective jaws.



Note

- Only tension the conrod slightly in order to avoid damage on the conrod.
- The conrod is clamped below the broken line.
- Unscrew both screws -arrows- by approx. 5 turns.
- Carefully knock against the conrod bearing cap with a plastic hammer in -direction of arrow- in order to loosen it.









15 - Cylinder head, valve gear

1 Cylinder head

- ⇒ "1.1 Assembly overview cylinder head cover", page 144
- ⇒ "1.2 Summary of components cylinder head", page 146
- ⇒ "1.3 Removing and installing cylinder head cover", page 149
- ⇒ "1.4 Replacing sealing rings for injection units", page 159
- ⇒ "1.5 Removing and installing cylinder head", page 160
- ⇒ "1.6 Removing and installing Hall sender G40 ", page 183
- ⇒ "1.7 Removing and installing the vacuum pump", page 183
- ⇒ "1.8 Checking compression", page 184
- 1.1 Assembly overview cylinder head cover



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.





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1 - Screw

□ 5 Nm

2 - Fuel distributor

- with injection lines
- do not change the flexion of the injection lines <u>"2.1 Assembly over-</u> view - fuel system", page 431

3 - Screw

□ 22 Nm

4 - Injection unit (Piezo injec-

□ Removing and installing ⇒ "2.3 Removing and installing injection unit (piezo injector)", page 436

5 - Screw

- ☐ Replace after disassembly
- 8 Nm + 270°

6 - Clamping claw

one clamping claw for 2 injection units

7 - Bushing

- for attaching the fuel distributor
- Replace if damaged.

8 - Sealing ring

☐ Replace after disassembly

9 - Sealing ring

□ replace after removal ⇒ "1.4 Replacing sealing rings for injection units", page 159

10 - Screw cap

Replace seal if damaged

11 - Cylinder head cover

□ Removing and installing ⇒ "1.3 Removing and installing cylinder head cover", page 149

replace if damaged or leaking

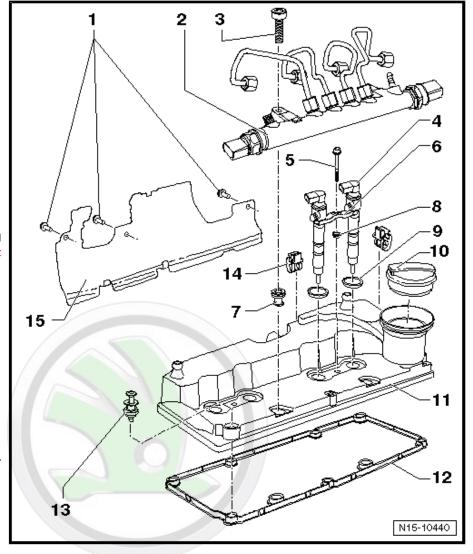
13 - Screw

- ☐ Observe tightening torque and tightening sequence ⇒ page 146
- Insert screw with bush and elastomer damping element in the cylinder head cover in such a way that it does not fall out
- 10 Nm

14 - Mounting bracket

for wiring loom

15 - Heat shield

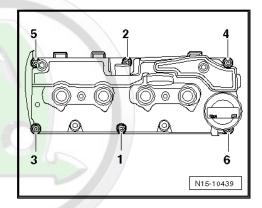




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Cylinder head cover - tightening torque and tightening order

 Tighten the screws for the cylinder head cover in the sequence -1-to -6- to 10 Nm.



1.2 Summary of components - cylinder head



Note

- ♦ Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.
- Cylinder heads with cracks between the valve seats may con-commercial purposes, in part or in whole, is not permitted tinue to be used without any reduction in the life time provided DA AUTO A. S. does not guarantee or accept any liability the cracks are slight and max. 0.5 mm wide.
- ♦ It is not permissible to rework the cylinder heads of diesel engines.
- ♦ Replace O-rings and gaskets.
- Replace cylinder head bolts and screws which have been tightened to a torquing angle.
- When installing an exchange cylinder head with the camshafts installed, it is necessary to oil the contact surfaces between the roller arms and the cams after installing the head.
- ♦ Do not remove the plastic bases supplied as a protection for the open valves until just before fitting on the cylinder head.
- ♦ When replacing the cylinder head, replace all the coolant ⇒ "1.2 Draining and filling coolant", page 236.

1 - Cylinder head

- □ Removing and installing ⇒ "1.5 Removing and installing cylinder head", page 160
- check for distortion ⇒ page 148
- ☐ After replacing, fill with fresh coolant

2 - Washer

for cylinder head screw

3 - Cylinder head bolt

- Pay attention to sequence for loosening and tightening ⇒ "1.5 Removing and installing cylinder head", page 160
- □ before fitting insert washers in the cylinder

4 - Oil pressure switch - F1-

- Marking: green
- □ 0.05 MPa (0.5 bar)
- Cut open sealing ring if leaking and replace
- ☐ Check ⇒ "1.10 Testing oil pressure and oil pressure switch", page 228.
- □ 20 Nm

5 - Screw

□ 20 Nm

6 - Rear left lifting eye on cylinder head

7 - Glow plug

□ 18 Nm

8 - Seal

□ Replace after disassembly

9 - Vacuum pump



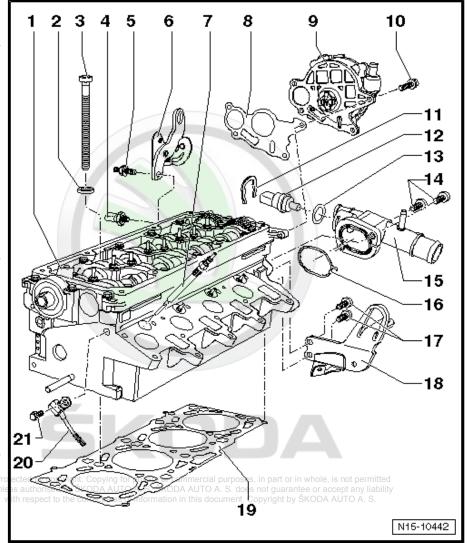
WARNING

The vacuum pump must on no account be disassembled, otherwise the proper operation of the pump vacuum part is no longer assured. This will result in a failure of the brake booster.

□ Removing and installing ⇒ "1.7 Removing and installing the vacuum pump", page 183

10 - Screw

□ 10 Nm





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11 - Clamp

12 - Coolant temperature transmitter - G62-

□ Removing and installing ⇒ "2.6 Removing and installing coolant temperature sender", page 266

13 - O-ring

□ Replace after disassembly

14 - Screw

□ 10 Nm

15 - Coolant connection fitting

16 - Seal

□ Replace after disassembly

17 - Screw

□ 25 Nm

18 - Front left lifting eye on cylinder head

the front right lifting eye is attached at the bracket for auxiliary units in the same way 1.1 Assembly overview - V-ribbed belt", page 60

19 - Cylinder head gasket

- Replace after disassembly
- □ Pay attention to the marking ⇒ page 149
- ☐ After replacing, fill with fresh coolant

20 - Hall transmitter - G40-

- for camshaft position
- ☐ Removing and installing ⇒ "1.6 Removing and installing Hall sender G40", page 183

21 - Screw

□ 10 Nm

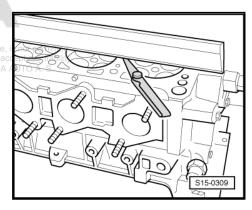
Checking cylinder head for distortion

- Inspect cylinder head at several points for distortion using a 500 mm knife-edge straightedge - VAS 6075- and feeler
- Max. permissible distortion: 0.1 mm



Note

It is not permissible to rework the cylinder heads of diesel engines.



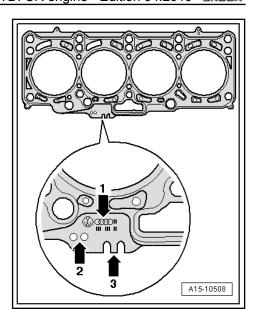
Identification of the cylinder head gasket

- Part number = arrow -1-
- Bores arrow -2-
- Arrow -3- (ignore)



Note

- Differing thicknesses of cylinder head gaskets are inserted according to the piston projection. If only the gasket is replaced, it must be replaced with a new gasket with the same marking.
- When fitting new pistons or a partial engine, check the piston projection in TDC on all pistons *⇒ "3.5 inspect piston projection at TDC", page 142* .



1.3 Removing and installing cylinder head cover

⇒ "1.3.1 Removing and installing cylinder head cover, Fabia II, Roomster, Rapid India, Rapid NH", page 149

⇒ "1.3.2 Removing and installing cylinder head cover, Octavia II, Superb II, Yeti", page 154

1.3.1 Removing and installing cylinder head cover, Fabia II, Roomster, Rapid India, Rapid NH



Note

Observe the safety precautions when working on the diesel direct injection system ⇒ "2 Safety instructions", page 3

Removing

Observe all safety measures and notes for assembly work on the or in whole, is not permitted fuel system and on the injection system as well as the rules for guarantee or accept any liability cleanly as the rules for guarantee or accept any liability cleanly as the rules for guarantee or accept any liability cleanly as the rules for guarantee or accept any liability cleanly as the rules for guarantee or accept any liability cleanly as the rules for guarantee or accept any liability cleanly as the rules for guarantee or accept any liability cleanly as the rules for guarantee or accept any liability cleanly as the rules for guarantee or accept any liability cleanly as the rules for guarantee or accept any liability cleanly as the rules for guarantee or accept any liability cleanly as the rules for guarantee or accept any liability cleanly as the rules for guarantee or accept any liability cleanly as the rules for guarantee or accept any liability cleanly as the rules for guarantee or accept any liability cleanly as the rules for guarantee or accept any liability cleanly as the rules for guarantee or accept any liability as the rules for guarantee or accept any liability as the rules for guarantee or accept any liability as the rules for guarantee or accept any liability as the rules for guarantee or accept any liability as the rules for guarantee or accept any liability as the rules for guarantee or accept any liability as the rules for guarantee or accept any liability as the rules for guarantee or accept any liability as the rules for guarantee or accept any liability as the rules for guarantee or accept any liability as the rules for guarantee or accept any liability as the rules for guarantee or accept any liability as the rules for guarantee or accept any liability as the rules for guarantee or accept any liability as the rules for guarantee or accept any liability as the rules for guarantee or accept any liability as the rules for guarantee or g cleanliness ⇒ "3.1 Rules of cleanliness", page 7.

- Remove engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11.
- If present, remove the noise insulation at the injection units.

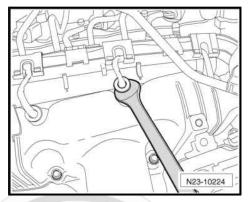


Caution

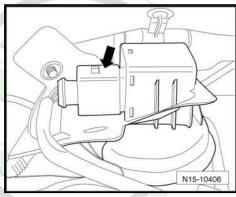
- ◆ Carefully remove the glow plug connectors from the glow plugs.
- If the plug is damaged when disconnecting it, the complete wiring loom including the plugs must be replaced (plugs cannot be replaced separately).



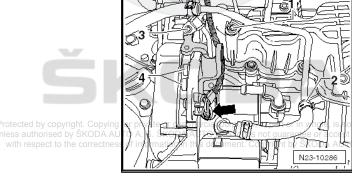
Carefully remove the glow plug connectors from the glow plugs. To do so use an open-end wrench, SW 12, for help.



Disconnect the plug of the position sender for charge pressure regulator - G581- -arrow- at the vacuum unit from the exhaust turbocharger and guide the line out of the brackets.



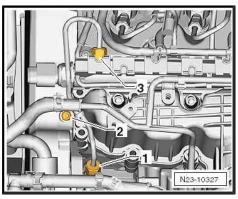
- Unscrew bolt -3-.
- Remove trailer engine bracket »grey«.



Remove the fuel high pressure line between the high pressure pump -1- and the fuel distributor -3-.

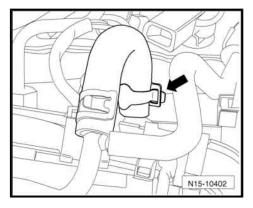


- Preferred loosening sequence of the high pressure lines cylinders 4-3-2-1.
- Counterhold at the injection units when loosening the high pressure connection piece.
- Remove high pressure line between fuel distributor and injection units.

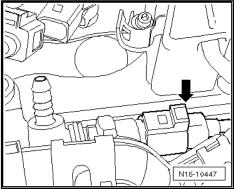




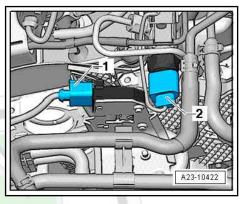
Slacken spring strap clamp -arrow- and detach the line from the fuel distributor.



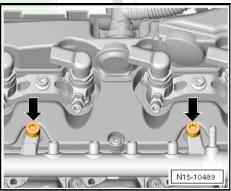
- Disconnect the plug at the fuel pressure regulating valve -N276- -arrow-.
- Remove the cable guide from the fuel distributor and lay it to the side.



- Disconnect electrical plug connection -2- for the fuel pressure sender - G247- .
- Detach the vacuum line at the cylinder head cover -A-.

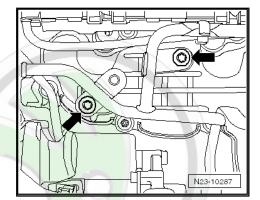


Screw out screws -arrows- and remove fuel distributor.

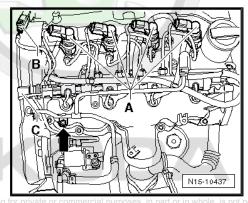


Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

Unscrew the fixing screws at the intake manifold -arrows- and lay the fuel return-flow line to the side.



Disconnect the plug from the injection units -A-.

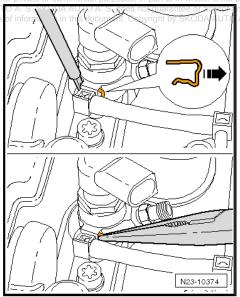


Unlock the connections of the fuel return-flow line using a SKODA Al screwdriver and a set of pointed pliers.



Note

Always replace clamps.



- Disconnect the connections of the fuel return-flow line at the injectors in -direction of arrow-.
- Remove the complete return-flow line and place it down at the intake manifold.
- Remove the remaining vacuum lines from the bracket at the cylinder head cover.
- Remove top toothed belt guard.
- Remove the vent line between the cylinder head cover and the intake hose. To do so, press together the quick-release fittings.
- Remove the injection units ⇒ "2.3 Removing and installing injection unit (piezo injector)", <u>page 436</u> .
- Unscrew the fixing screws of the cylinder head cover.
- Remove cylinder head cover.
- To do so, unclip the cylinder head cover at the catch pegs -arrows- of the rear toothed belt guard.

Installing

Assembly is carried out in the reverse order. When installing, observe the following:



Note

Replace gasket for cylinder head cover if damaged or leaking.

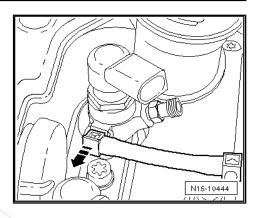
Screw on the cylinder head cover by hand in the sequence -1- to -6-.

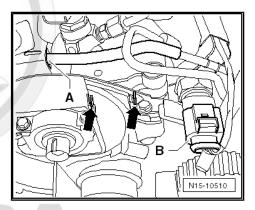
Make sure that the cylinder head cover is correctly clipped with the toothed belt guard. Protected by

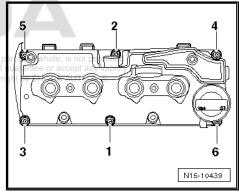


Note

To provide a clearer illustration, the camshaft sprocket is removed.









Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- To do so, if necessary use a screwdriver to press the toothed belt guard in the area of the clips -arrows- against the cylinder head cover until they lock audibly into each other.
- Check the clearance between the hub and the toothed belt guard.
- Install the injection units
 ⇒ "2.3 Removing and installing injection unit (piezo injector)",
 page 436.

Connect the \Rightarrow Vehicle diagnostic tester and carry out the "Bleed fuel system" function in "Targeted functions".

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- ◆ Cylinder head cover ⇒ "1.1 Assembly overview - cylinder head cover", page 144.
- ◆ High pressure line ⇒ "2.1 Assembly overview - fuel system", page 431.

1.3.2 Removing and installing cylinder head cover, Octavia II, Superb II, Yeti



Note

Observe the safety precautions when working on the diesel direct injection system \Rightarrow "2 Safety instructions", page 3.

Removing

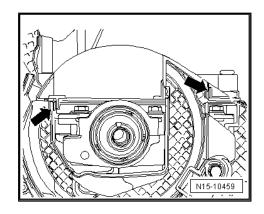
Observe all safety measures and notes for assembly work on the fuel system and on the injection system as well as the rules for cleanliness \Rightarrow "3.1 Rules of cleanliness", page 7.

- Remove engine cover
 ⇒ "1.1 Removing and installing engine trim panel", page 11
- If present, remove the noise insulation at the injection units.



Caution

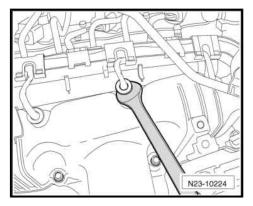
- Carefully remove the glow plug connectors from the glow plugs.
- If the plug is damaged when disconnecting it, the complete wiring loom including the plugs must be replaced (plugs cannot be replaced separately).



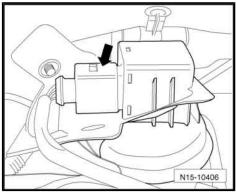


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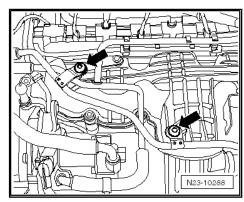
Carefully disconnect the plug from the glow plugs. Use the assembly spanner SW 12 for help.



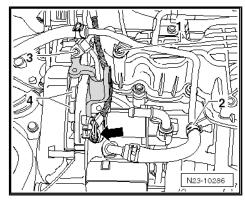
Disconnect the plug of the position sender for charge pressure regulator - G581- -arrow- at the vacuum unit from the exhaust turbocharger and guide the line out of the brackets.



Unscrew screws -arrows- and lay the coolant return-flow line to the side.



- Unscrew bolt -3-.
- Remove engine mount »grey«.
- Remove the fuel high pressure line between the high pressure pump and the fuel distributor.

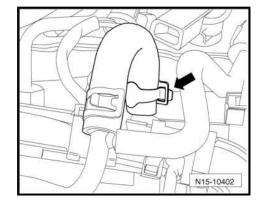


Note

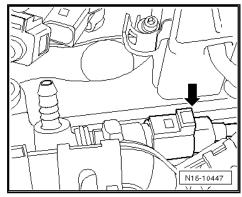
- Preferred loosening sequence of the high pressure lines cylinders 4-3-2-1.
- Counterhold at the injection units when loosening the high pressure connection piece.
- Remove high pressure line between fuel distributor and injection units.

Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

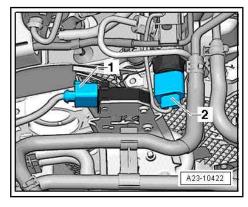
Slacken spring strap clamp -arrow- and detach the line from the fuel distributor.



- Disconnect the plug at the fuel pressure regulating valve -N276- -arrow-.
- Remove the cable guide from the fuel distributor and lay it to the side.

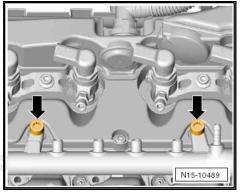


- Disconnect electrical plug connection -2- for the fuel pressure sender - G247- .
- Detach the vacuum line at the cylinder head cover -A-.

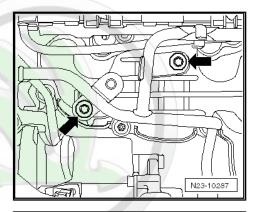


Screw out screws -arrows- and remove fuel distributor.

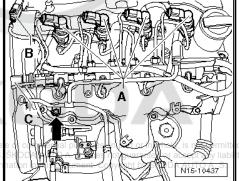




Unscrew the fixing screws at the intake manifold -arrows- and lay the fuel return-flow line to the side.



Disconnect the plug from the injection units -A- and the differential pressure sender - G505- -B-.

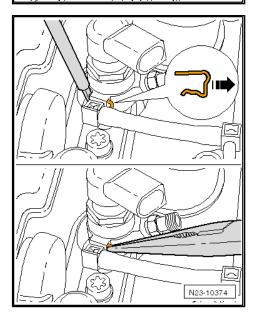


Unlock the connections of the fuel return-flow line using a screwdriver and a set of pointed pliers.



Note

Always replace clamps.





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- Disconnect the connections of the fuel return-flow line at the injectors in -direction of arrow-.
- Remove the complete return-flow line and place it down at the intake manifold.
- Remove the remaining vacuum lines from the bracket at the cylinder head cover.
- Remove top toothed belt guard.
- Remove the vent line between the cylinder head cover and the intake hose. To do so, press together the quick-release fittings.
- Remove the injection units ⇒ "2.3 Removing and installing injection unit (piezo injector)", page 436
- Unscrew the fixing screws of the cylinder head cover.
- Remove cylinder head cover.
- To do so, unclip the cylinder head cover at the catch pegs -arrows- of the rear toothed belt guard.



Assembly is carried out in the reverse order. When installing, observe the following:



Note

Replace gasket for cylinder head cover if damaged or leaking.

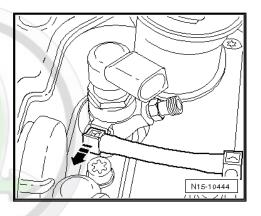
Screw on the cylinder head cover by hand in the sequence -1- to -6-.

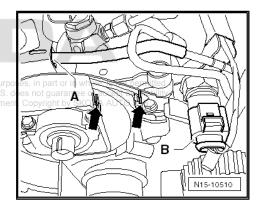
Make sure that the cylinder head cover is correctly clipped with the toothed belt guard.

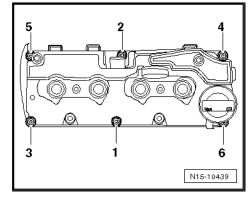


Note

To provide a clearer illustration, the camshaft sprocket is removed.









- To do so, if necessary use a screwdriver to press the toothed belt guard in the area of the clips -arrows- against the cylinder head cover until they lock audibly into each other.
- Check the clearance between the hub and the toothed belt guard.
- Install the injection units ⇒ "2.3 Removing and installing injection unit (piezo injector)",

Connect the ⇒ Vehicle diagnostic tester and carry out the "Bleed fuel system" function in "Targeted functions".

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- Cylinder head cover "1.1 Assembly overview - cylinder head cover", page 144.
- High pressure line 2.1 Assembly overview - fuel system", page 431

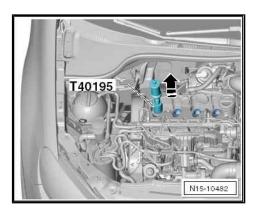
Replacing sealing rings for injection

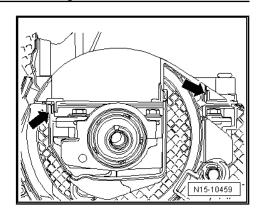
Special tools and workshop equipment required

- ◆ Driver 3390-
- Set of tools for FSI engines T10133C-
- ◆ Sealing ring extractor T40195-

Work procedure

- Remove injection unit concerned ⇒ "2.3 Removing and installing injection unit (piezo injector)",
- Insert sealing ring extractor T40195- into the sealing ring.



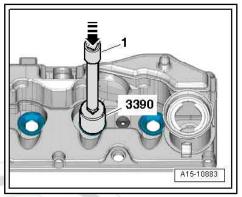


Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

 Position hammer -T10133/3- with the adapter -T10133/2- at the sealing ring extractor - T40195-, as shown in the illustration, and pull out upwards.



 Press in the new sealing ring for the injection unit using the driver - 3390- and short extension -1- from above up to the stop.



1.5 Removing and installing cylinder head

⇒ "1.5.1 Removing and installing cylinder head, Fabia II, Roomster, Rapid India, Rapid NH", page 160

⇒ "1.5.2 Removing and installing cylinder head, Octavia II, Superb II, Yeti", page 172

1.5.1 Removing and installing cylinder head, Fabia II, Roomster, Rapid India, Rapid NH

Special tools and workshop equipment required

- ♦ Guide bolt MP1-208 (3070)-
- ◆ Counterholder T10051-
- ♦ Extractor T10052-
- Socket wrench XZN 10 T10385-
- ♦ Sealant remover gasket stripper (bearing code GST, bearing article no. R 34402), manufacturer Retech s.r.o.
- Locking agent D 000 600 A2-

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Protective goggles and gloves

For vehicles Rapid NH

Special tools and workshop equipment required

♦ Mounting bracket - T10358-

Removing

Requirements

- Engine temperature should not exceed 35°C, because the cylinder head could be twisted when slackening the screws.
- The pistons must not be in TDC.



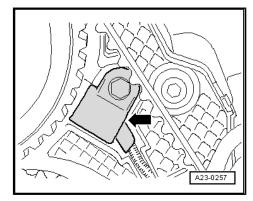
Caution

When undertaking all installation work, particularly in the engine compartment due to its cramped construction, please observe the following:

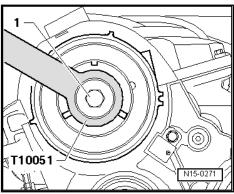
- ♦ Lay lines of all kinds (for example, for fuel, hydraulic fluid, cooling fluid and refrigerant, brake fluid, vacuum) and electrical lines in such a way that the original line guide is re-established.
- To avoid damage to lines/wiring, ensure sufficient clearance to all moving or hot components.

Observe all safety measures and notes for assembly work on the fuel supply and injection system, at the charge air system and observe as well the rules for cleanliness

- ⇒ "3.1 Rules of cleanliness", page 7.
- Disconnect the battery-earth strap with the ignition off ⇒ Electrical System; Rep. gr. 27.
- Remove engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11
- Remove air filter housing with air mass meter G70- and intake hose ⇒ "3.5 Removing and installing air filter", page 479
- Remove battery and battery tray ⇒ telectrical System; Repis document. Copyright by ŠKODA AUTO A. S. gr. 27.
- Remove cylinder head cover ⇒ "1.3 Removing and installing cylinder head cover", page 149
- Remove toothed belt ⇒ "1.7 Removing and installing toothed belt", page 96.
- Unscrew Hall sender G40- -arrow- and place down.
- Remove camshaft sprocket.



- Counterhold the hub with the counterholder T10051- and slacken the fixing screw -1- of the hub.
- Unscrew the fixing screw of the hub by approx. 2 turns.





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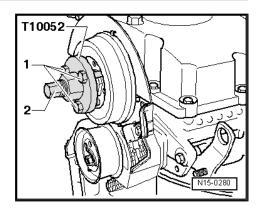
- Position the extractor T10052- and align it with the hub bores.
- Tighten fixing screws -1-.
- Put the hub under tension by uniformly tightening the extractor -2- until the hub is released from the camshaft cone.

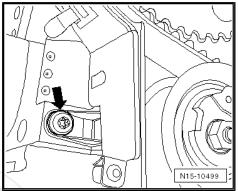


Note

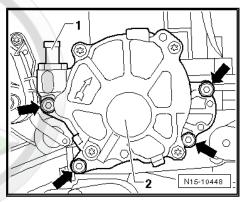
While doing so, hold the extractor firmly using a wrench SW 30.

- Remove hub from cone of camshaft.
- Unscrew the fixing screw -arrow- of the toothed belt guard.



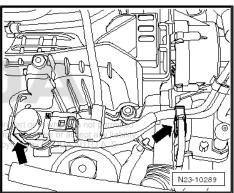


- Detach the vacuum line -1- from the vacuum pump -2-.

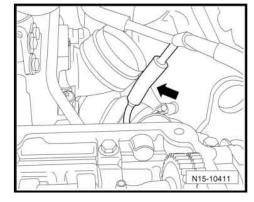


Slacken the vacuum lines -arrows- and lay them to the side.

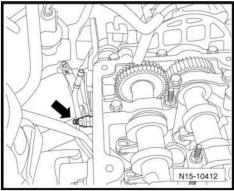




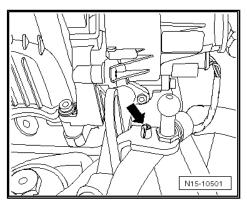
- Detach vacuum line -arrow-.
- Lay vacuum lines to the side.



- Unscrew the connection -arrow- of the vacuum line.

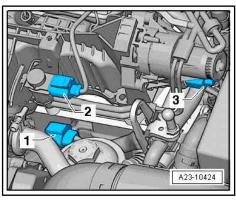


Unclip the engine pre-wiring from the holder -arrow-.



Disconnect plug -3- from intake manifold flap motor - V157-,

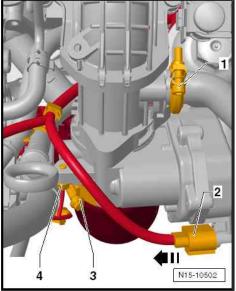




Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- Disconnect the plug from the throttle valve control unit J338--2-.
- Open clamp -3- and detach charge air hose »dark red«.
- Release the screw from the oil measuring connection -4-.

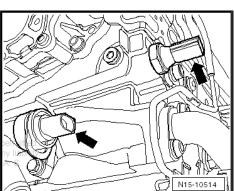




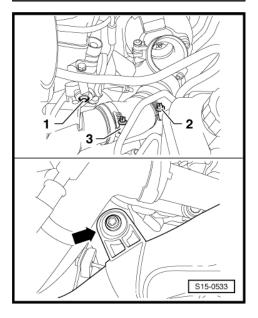
- Disconnect plug at oil pressure switch -arrow- and guide out the cable -Pos. 4-
 - ⇒ "1.2 Summary of components cylinder head", page 146 .



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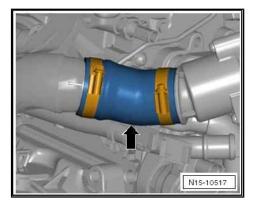


- Release the fixing screw -1- from the charge air pipe (if present), slacken the clamp -2- or -3-.
- Release fixing screw -arrow- from charge air pipe.

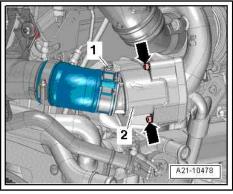




- Detach the connecting hose -arrow- as far as possible from the vibration damper.
- Push the charge air pipe as far as possible to the side.

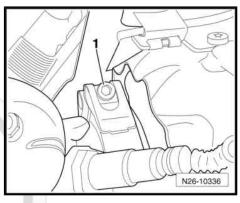


Screw out screws -arrows- and remove pulsation dampener

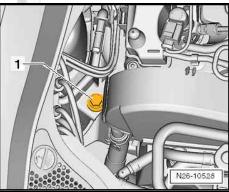


For vehicles Fabia II, Roomster, Rapid NH with engine identification characters CAYB, CAYC

Unscrew the screw -1- and open the clamp at the diesel particle filter.



Release the top screw -1- for attaching the diesel particle filter.



Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

For vehicles Rapid India, Rapid NH with engine identification characters CLNA

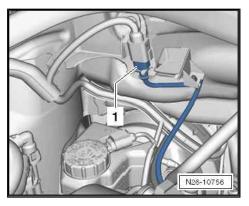
Disconnect plug connection -1- from exhaust gas temperature sender 1 - G235- .

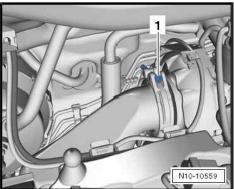


Note

Illustration for Rapid India vehicles:

Unscrew screw -1- and open the clamp between catalytic converter and exhaust gas turbocharger.

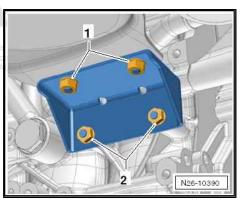




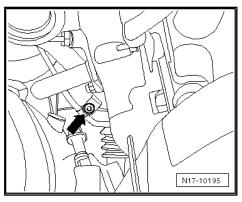
Continued for all vehicles

Unscrew the nuts -2-.

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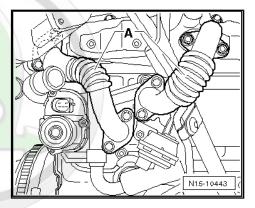


Unscrew the screw of the retaining clip -arrow- for the oil feed line at the support for the exhaust gas turbocharger.





- Remove connection pipes -A- to exhaust gas recirculation radiator.
- Remove oil feed line and oil return-flow line with support for exhaust turbocharger ⇒ page 393.
- Drain coolant ⇒ "1.2 Draining and filling coolant", page 236.

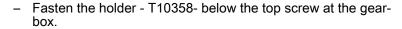


- Disconnect plug -4- at the coolant temperature sender G62-.
- Slacken the hose clamps -1- and -2- and detach the coolant hoses from the connection fittings.

For vehicles Rapid NH

The lifting eyes are located on the cylinder head. An additional holder must be fitted on the gearbox flange to support the engine.

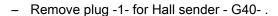
Remove connection fitting ⇒ "3.1.1 Summary of components Coolant pipes, Fabia II, Roomster, Rapid India, Rapid NH", page 272

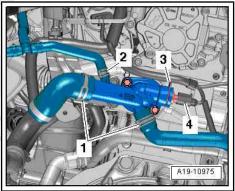


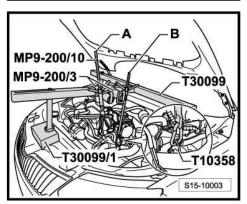
- Raise engine with spindle -B- until spindle -A- is relieved.
- Release spindle -A- and take out of the cylinder head holder.

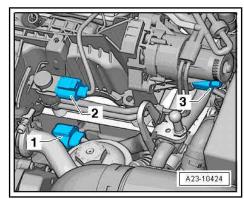
Continued for all vehicles

- Release the fixing nut of the timing belt tensioning pulley.











Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- Follow the specified order for loosening cylinder head bolts.



Note

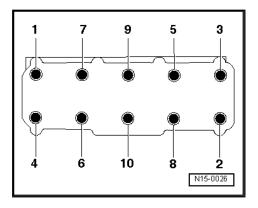
- The assistance of a 2nd mechanic is required for lifting out the cylinder head.
- The timing belt tensioning pulley is removed from the pin screw when lifting out the cylinder head.
- First of all raise the cylinder head at the gearbox side and then thread it out of the toothed belt guard. Make sure that the timing belt tensioning pulley does not fall down.



Caution

Risk of damage to the glow plugs when turning the cylinder head.

If the cylinder head is removed with installed glow plugs, do not place it down on the sealing surface since the glow plugs protrude slightly beyond the sealing surface.



Installing

Installation is carried out in the reverse order; pay attention to the following points:





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Note

- Do not use abrasives (sandpaper, grinding wheels, abrasive wool, etc.).
- The sealing surface (see photo) must not be raised.
- Dark discolouration (see photo) does not need to be removed.
- There must not be any oil or coolant present in the blind holes for the cylinder head bolts.
- Replace cylinder head bolts.
- Replace self-locking nuts.
- Replace screws which have been tightened to torquing angle.
- Always replace gasket rings and seals.
- Remove the new cylinder head gasket from its wrapping immediately before fitting.
- Treat the seal with the utmost care. Damage to the silicone layer and in the area of the bead results in leakages.
- When installing an exchange cylinder head with the camshafts installed, it is necessary to oil the contact surfaces between the roller arms and the cams after installing the cylinder head.
- Secure all hose connections with corresponding hose clips.



WARNING

Wear protective gloves and goggles when working with gasket remover and degreasing agent!

Make sure that when cleaning the cylinder head and cylinder block no foreign particles can get into the cylinder or into the oil and coolant galleries.

- Carefully remove old sealant residue from the cylinder head and cylinder block using a chemical sealant remover.
- Remove the crankshaft arrester T10050- before fitting on the cylinder head and turn back the crankshaft in the opposite direction of rotation of the engine until all the pistons are almost evenly at TDC.







Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

Pay attention to the identification of the cylinder head seal.

- ♦ Part number = arrow -1-
- ♦ Bores arrow -2-
- ♦ Arrow -3- (ignore)



Note

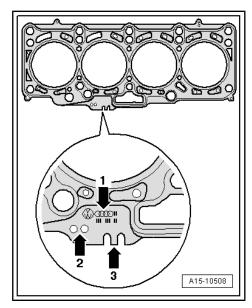
- Install a new cylinder head gasket with the same marking, irrespective of whether or not the cylinder head was replaced.
- If parts of the crankshaft drive were replaced, then the new cylinder head gasket must be redefined by measuring the protrusion of the piston in TDC.
- Position the cylinder head gasket with the marking to the top.
- For centering, screw in guide bolts MP1-208 (3070)- into the outer holes on the suction side.

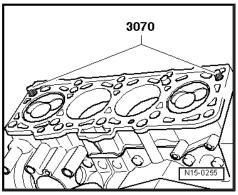


Note

The tensioning pulley must be placed on the stud bolts when the cylinder head is being fitted.

- Fit cylinder head, insert 8 cylinder head bolts and tighten handtight.
- Unscrew guide pins MP1-208 (3070)- through the screw holes in the cylinder head and insert the last cylinder head
 Prbolts until contact is made or commercial purposes, in part or in whole, is not permitted unless authorised by SKODA AUTO A. S. SKODA AUTO A. S. does not guarantee or accept any liability

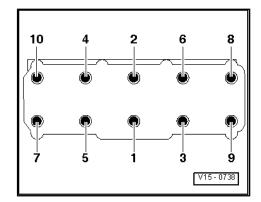






Tighten cylinder head in 4 stages in the tightening order shown:

Step	Tighten
Ι	 Tighten with the torque wrench to 35 Nm.
II	 Tighten with the torque wrench to 60 Nm.
III	 Tighten further 90° with a rigid wrench.
IV	 Tighten further 90° with a rigid wrench.





Note

Tightening up the cylinder head bolts after doing repair work is not necessary.

Installation is carried out in the reverse order. When installing, note the following:

- Filling and bleeding the fuel system \Rightarrow "1.3 Filling/bleeding the fuel system", page 429.
- Check fuel system for tightness ⇒ "2.9 Check the fuel system for tightness", page 457
- Perform a test drive and query and delete event memory ⇒ Vehicle diagnostic tester.

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- Protected by copyright. Copying for private or commercial Summary of components DA AUTO A. S. SKODA AUTO A ⇒ "1.2 Summary of components incylinder head" page 146 by SKODA AUTO A. S.
- Summary of components "1.2.1 Summary of components - Toothed belt drive, Fabia II, Roomster, Rapid India, Rapid NH", page 66
- Summary of components ⇒ "1.1 Summary of components - removing and installing parts of the lubrication system", page 203.
- Summary of components ⇒ "2.1.1 Summary of components - Charge air cooler, Fabia II, Roomster, Rapid India, Rapid NH", page 409
- Summary of components ⇒ "1.1.1 Summary of components - Exhaust gas turbocharger with component parts, Fabia II, Roomster, Rapid India, Rapid NH", page 385.
- Summary of components ⇒ "1.1 Summary of components - pre-exhaust pipe", page 496.
- Summary of components ⇒ "2.1.1 Summary of components - Exhaust gas recirculation with radiator for exhaust gas recirculation, Roomster, Rapid India, Rapid NH", page 547



1.5.2 Removing and installing cylinder head, Octavia II, Superb II, Yeti

Special tools and workshop equipment required

- Guide bolt MP1-208 (3070)-
- Counterholder T10051-
- Extractor T10052-
- Socket wrench XZN 10 T10385-
- Sealant remover Gasket Stripper (stock code GST, stock item No. R 34402), manufacturer Retech s.r.o.
- Locking agent D 000 600 A2-
- Protective goggles and gloves

Removing

Requirements

- Engine temperature should not exceed 35°C, because the cylinder head could be twisted when slackening the screws.
- The pistons must not be in TDC.



Caution

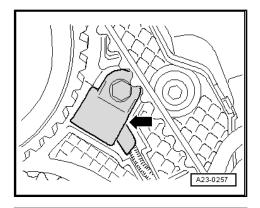
When undertaking all installation work, particularly in the engine compartment because of its cramped construction, please observe the following:

- Lay lines of all kinds (for example, for fuel, hydraulic fluid, cooling fluid and refrigerant, brake fluid, vacuum) and electrical lines in such a way that the original line guide is re-established.
- To avoid damage to lines/wiring, ensure sufficient clearance to all moving or hot components.

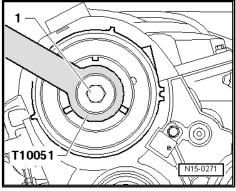
Observe all safety measures and notes for assembly work on the fuel supply and injection system, at the charge air system and observe as well the rules for cleanliness

- ⇒ "3.1 Rules of cleanliness", page 7.
- Disconnect the battery-earth strap with the ignition off ⇒ Electrical System; Rep. gr. 27.
- Remove engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11
- Remove air filter housing with air mass meter G70- and intake hose ⇒ "3.5 Removing and installing air filter", page 479.
- Remove battery and battery tray ⇒ Electrical System; Rep. gr. 27.
- Remove cylinder head cover ⇒ "1.3 Removing and installing cylinder head cover", page 149
- Remove toothed belt ⇒ "1.7 Removing and installing toothed belt", page 96.

- Unscrew Hall sender G40- -arrow- and place down.
- Remove camshaft sprocket.



- Counterhold the hub with the counterholder T10051- and slacken the fixing screw -1- of the hub.
- Unscrew the fixing screw of the hub by approx. 2 turns.



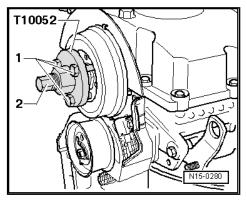
- Position the extractor T10052- and align it with the hub bores.
- Tighten fixing screws -1-.
- Put the hub under tension by uniformly tightening the extractor -2- until the hub is released from the camshaft cone.

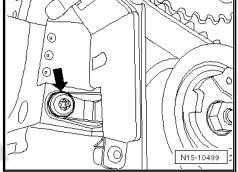


Note

While doing so, hold the extractor firmly using a wrench SW 30.

- Remove hub from cone of camshaft.
- Unscrew the fixing screw -arrow- of the toothed belt guard.

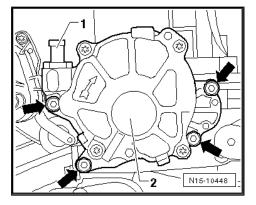




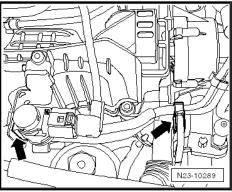




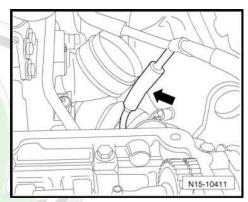
Detach the vacuum line -1- from the vacuum pump -2-.



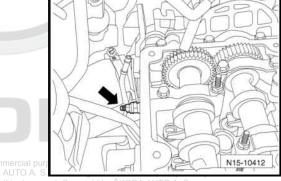
- Unclip the vacuum lines, -arrows- and lay them to the side.



- Detach vacuum line -arrow-.
- Lay vacuum lines to the side.

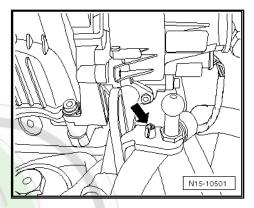


Unscrew the connection -arrow- of the vacuum line.

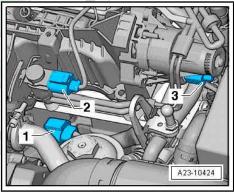




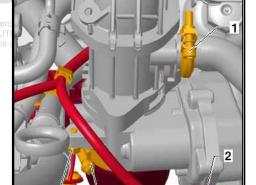
- Unclip the engine pre-wiring from the holder -arrow-.



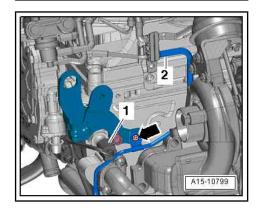
- Disconnect plug -3- from intake manifold flap motor V157- .
- Lay the engine pre-wiring to the side.



- Disconnect the plug from the throttle valve control unit J338-
- Open clamp -3- and detach charge air hose »dark red«.
- Release the screw -4- from the oil measuring connection. SKODA AU



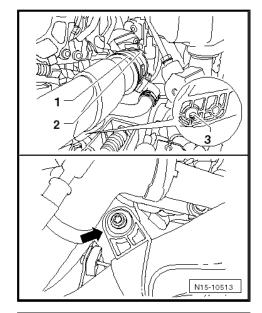
Disconnect plug -1- at oil pressure switch - F1- .



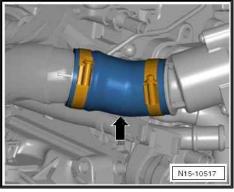
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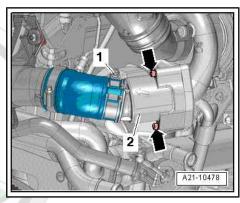
- Release the fixing screw -3- from the charge air pipe, slacken the clamp -1- or -2-.
- Release fixing screw -arrow- of charge air pipe.



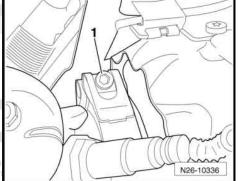
- Detach the connecting hose -arrow- as far as possible from the pulsation dampener.
- Push the charge air pipe as far as possible to the side.



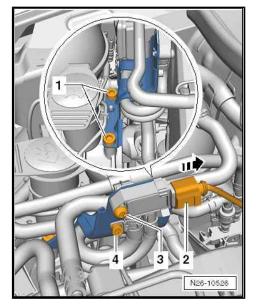
Screw out screws -arrows- and remove pulsation dampener -2-.



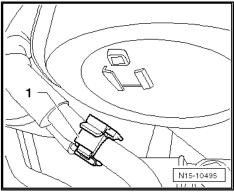
Unscrew the screw -1- and open the clamp at the diesel particle filter.



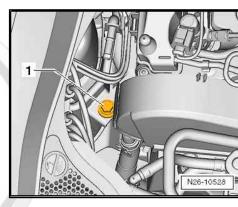
- Disconnect the plug -2- from the differential pressure sender G505- and unscrew the fixing screws -1-.
- Unscrew screws -3- and -4-.



- Slacken line -1- for differential pressure sender G505- with bracket from top timing belt guard.
- Remove the bracket with the differential pressure sender -G505- and place it to the rear.

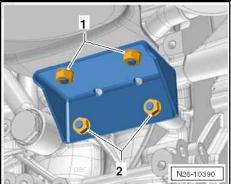


- Release the top screw -1- for attaching the diesel particle filter.

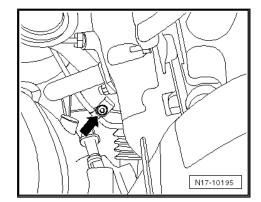


- Unscrew the nuts -2-.

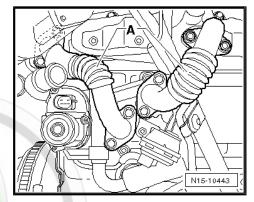




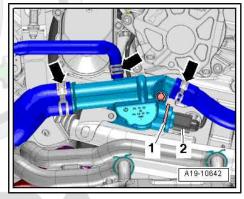
Now the fixing screw of the retaining clip -arrow- for the oil feed line at the support of the exhaust turbocharger is accessible. Unscrew screw -arrow-.



- Remove connection pipes -A- to exhaust gas recirculation radiator.
- Remove the oil feed line and the support for the exhaust turbocharger ⇒ page 399.
- Drain coolant ⇒ "1.2 Draining and filling coolant", page 236.

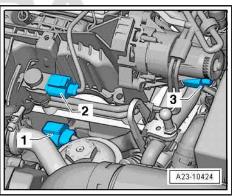


- Disconnect plug -2- from coolant temperature sender G62-.
- Slacken the hose clamps -arrows- and detach the coolant hoses from the connection fittings.
- Release the fixing nut of the timing belt tensioning pulley.



Remove plug -1- for Hall sender - G40-





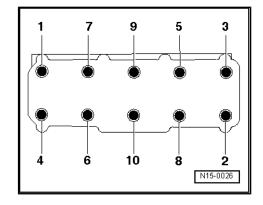


Follow the specified order for loosening cylinder head bolts.



Note

- The assistance of a second mechanic is required for removing the cylinder head.
- The timing belt tensioning pulley is removed from the pin screw when lifting out the cylinder head.
- First of all raise the cylinder head at the gearbox side and then thread it out of the toothed belt guard. Make sure that the timing belt tensioning pulley does not fall down.





Caution

Risk of damage to the glow plugs when turning the cylinder head.

If the cylinder head is removed with installed glow plugs, do not place it down on the sealing surface since the glow plugs protrude slightly beyond the sealing surface.

Installing

Installation is carried out in the reverse order; pay attention to the following points:





Note

- Do not use abrasives (sandpaper, grinding wheels, abrasive wool, etc.).
- ♦ The sealing surface (see photo) must not be raised.
- ♦ Dark discolouration (see photo) does not need to be removed.
- There must not be any oil or coolant present in the blind holes for the cylinder head bolts.
- ♦ Replace cylinder head bolts.
- Replace self-locking nuts.
- Replace screws which have been tightened to torquing angle.
- ♦ Always replace gasket rings and seals.
- Remove the new cylinder head gasket from its wrapping immediately before fitting.
- ♦ Treat the seal with the utmost care. Damage to the silicone layer and in the area of the bead results in leakages.
- When installing an exchange cylinder head with the camshafts installed, it is necessary to oil the contact surfaces between the roller arms and the cams after installing the cylinder head.
- Secure all hose connections with corresponding hose clips.



WARNING

Wear protective gloves and goggles when working with gasket remover and degreasing agent!

Make sure that when cleaning the cylinder head and cylinder block no foreign particles can get into the cylinder or into the oil and coolant galleries.

- Carefully remove old sealant residue from the cylinder head and cylinder block using a chemical sealant remover.
- Remove the crankshaft arrester T10050- before placing on the cylinder head and turn the crankshaft in the opposite direction of rotation of engine until all the pistons are approx. at TDC.





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Pay attention to the identification of the cylinder head seal.

- Part number = arrow -1-
- Bores arrow -2-
- Arrow -3- (ignore)



Note

- Install a new cylinder head gasket with the same marking, irrespective of whether or not the cylinder head was replaced.
- ♦ If parts of the crankshaft drive were replaced, then the new cylinder head gasket must be redefined by measuring the protrusion of the piston in TDC.
- Position the cylinder head gasket with the marking to the top.

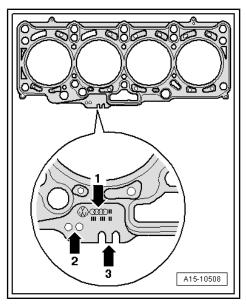


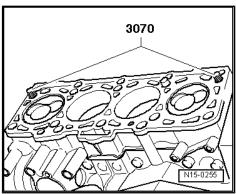


Note

The tensioning pulley must be placed on the stud bolts when the cylinder head is being fitted.

- Fit cylinder head, insert 8 cylinder head bolts and tighten hand-
- Unscrew guide pins MP1-208 (3070)- through the screw holes in the cylinder head and insert the last cylinder head bolts until contact is made.



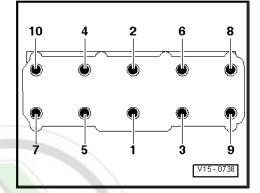




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 Tighten cylinder head in 4 stages in the tightening order shown:

Step	Tighten
I	 Tighten with the torque wrench to 35 Nm.
П	 Tighten with the torque wrench to 60 Nm.
III	 Tighten further 90° with a rigid wrench.
IV	 Tighten further 90° with a rigid wrench.





Note

Tightening up the cylinder head bolts after doing repair work is not necessary.

Installation is carried out in the reverse order. When installing, note the following:

- Filling and bleeding the fuel system
 ⇒ "1.3 Filling/bleeding the fuel system", page 429 .
- Check fuel system for tightness
 ⇒ "2.9 Check the fuel system for tightness", page 457
- Perform a test drive and query and delete event memory ⇒ Vehicle diagnostic tester.

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

Summary of components
 ⇒ "1.2 Summary of components - cylinder head", page 146

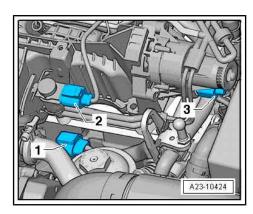
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- ♦ Summary of components ⇒ "1.2.2 Summary of components - Toothed belt drive, Octavia II, Superb II, Yeti", page 70.
- ♦ Summary of components ⇒ "1.1 Summary of components - removing and installing parts of the lubrication system", page 203.
- Summary of components
 ⇒ "2.1.2 Summary of components Charge air cooler, Octavia II, Superb II, Yeti", page 410.
- Summary of components
 ⇒ "1.1.2 Summary of components Exhaust gas turbocharger with component parts, Octavia II, Superb II, Yeti", page 388
- Summary of components ⇒ "1.1 Summary of components - pre-exhaust pipe", page 496.
- Summary of components ⇒ "2.1.2 Summary of components - Exhaust gas recirculation with radiator for exhaust gas recirculation, Octavia II, Superb II, Yeti", page 549.

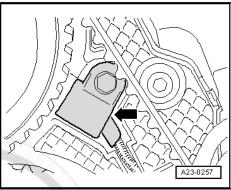


1.6 Removing and installing Hall sender -G40-

- Remove toothed belt ⇒ "1.7 Removing and installing toothed belt", page 96.
- Remove plug -1- for Hall sender G40-.
- Disconnect the plug from its bracket.



Unscrew Hall sender - G40- -arrow-.

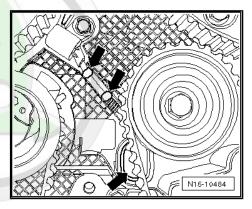


- Remove the lands and the cover of the repair opening -arrows- using a screwdriver.
- Unscrew the Hall sender G40- from the cylinder head and guide its plug through the repair hole in the toothed belt guard.

Installing

Installation is carried out in the reverse order. Pay attention to the following:

- Close the repair hole in the toothed belt guard with a rubber plug ⇒ ETKA - Electronic Catalogue of Original Parts.
- install toothed belt and set the timing ⇒ "1.7 Removing and installing toothed belt", page 96.



Tightening torques - summaries of components

Hall sender - G40-⇒ "1.2 Summary of components - cylinder head", page 146.

1.7 Removing and installing the vacuum pump



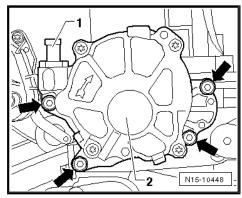
WARNING

The vacuum pump must on no account be disassembled, otherwise the proper operation of the pump vacuum part is no longer assured. This will result in a failure of the brake booster.



Removing

- Remove air filter housing
 ⇒ "3.5 Removing and installing air filter", page 479 .
- Detach the vacuum line -1- from the vacuum pump -2-.
- Unscrew the fixing screws of the left charge air pipe and afterwards press the left charge air pipe slightly downwards in order to reach the rear bolted connection of the vacuum pump.



- Unscrew securing bolts -arrows-.
- Remove vacuum pump -2- from cylinder head.

Installing

Assembly is carried out in the reverse order. When installing, observe the following:



Note

- Pay attention to the correct position of the coupling for the vacuum pump in the camshaft.
- ♦ Always replace the vacuum pump seals.
- Install the vacuum pump and tighten the securing bolts.
- Connect the vacuum line -1- of the brake servo unit to the vacuum pump.

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

◆ Vacuum pump
 ⇒ "1.2 Summary of components - cylinder head", page 146.

1.8 Checking compression

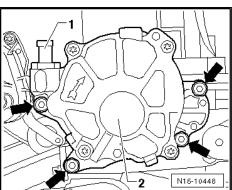


Note

- ◆ A rough test of the compression pressure can be carried out in the targeted fault finding ⇒ Vehicle diagnostic tester. A. S. does not guarantee or accept any liability
- The following work sequence with the compression tester gives more precise values.

Special tools and workshop equipment required

- ♦ Flexible-head wrench SW 10 3220-
- Compression tester , e.g. -V.A.G 1763-





♦ Adapter - V.A.G 1763/8-

Test condition

- Engine oil temperature at least 80 °C.
- Battery voltage at least 12.5 V

Test sequence

- Remove engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11.
- Disconnect the plug at the fuel pressure regulating valve -N276- -arrow- on the fuel distributor.
- Start engine briefly in order to reduce the pressure in the fuel distributor.
- Remove all glow plugs ⇒ "1.1 Removing and installing, testing glow plugs", page 567

Screw the adapter - V.A.G 1763/8- into the threaded hole of the glow plug on the cylinder to be checked and connect the compression tester - V.A.G 1763- .



Note

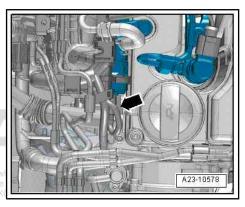
Use of the compression tester - V.A.G 1763- ⇒ Owner's Manual.

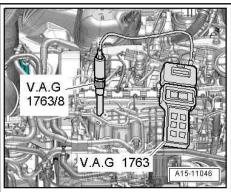
- Operate the starter with the assistance of a 2nd mechanic until no further pressure rise is indicated by the compression tester - V.A.G 1763- .
- Measure the compression pressure consecutively on all the cylinders.

Compression read- ings	Pressure	
Engine new	2.5 - 3.1 MPa (25.0 - 31.0 bar)	
Wear limit	1.9 MPa (19.0 bar)	
Maximum permissi- ble difference be- tween the cylinders	0.5 MPa (5.0 bar)	

Installation is carried out in the reverse order. When installing, observe the following:

- Install the glow plug for the relevant cylinder ⇒ "1.1 Removing and installing, testing glow plugs", page 567
- Querying and erasing event memory of engine control unit ⇒ Vehicle diagnostic tester.







2 Valve gear

- ⇒ "2.1 Assembly overview valve gear", page 186
- ⇒ "2.2 Replacing camshaft sealing ring", page 188
- ⇒ "2.3 Removing and installing camshafts", page 191
- ⇒ "2.4 Measuring the axial play of the camshafts", page 195
- ⇒ "2.5 Checking hydraulic balancing elements", page 196
- ⇒ "2.6 Replacing valve stem seals", page 197
- ⇒ "2.7 Valve dimensions", page 202
- ⇒ "2.8 inspecting valve guides", page 202

2.1 Assembly overview - valve gear



Note

- Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.
- ♦ After installing the camshafts, the engine must not be cranked or started for about 30 minutes. The hydraulic clearance compensation elements must settle (otherwise the valves would strike the pistons).
- After carrying out work on the valve gear, carefully crank engine at least 2 revolutions to ensure that no valve touches the piston when the engine is started.
- ♦ Always replace gasket rings and seals.





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1 - Valve

- do not rework, only grinding in is permissi-
- mark the fitting position for re-installation
- Valve dimensions ⇒ "2.7 Valve dimensions", page 202
- inspecting valve guides ⇒ "2.8 inspecting valve guides", page 202

2 - Cylinder head

- pay attention to the notes ⇒ "1.2 Summary of components - cylinder head", page 146
- check for distortion ⇒ page 148
- □ Removing and installing ⇒ "1.5 Removing and installing cylinder head", page 160
- □ After replacing, fill with fresh coolant

3 - Valve stem gasket

□ Replace ⇒ "2.6 Replacing valve stem seals", page 197

4 - Valve spring

- 5 Valve spring plate
- 6 Valve collets

7 - Screw cap

- Replace after disassembly
- Remove: if the bearing frame is built in, insert a screwdriver and lever out
- ☐ Install: drive in flush with a suitable thrust piece without sealant

8 - Sealing ring

- ☐ Do not additionally lubricate or grease sealing lip of the gasket ring
- ☐ Remove oil residue on the camshaft stud with a clean cloth
- □ before fitting cover slot on the camshaft cone with adhesive tape (e.g. Scotch tape)
- □ Various versions, observe part numbers ⇒ ETKA Electronic Catalogue of Original Parts
- Replace ⇒ "2.2 Replacing camshaft sealing ring", page 188

9 - Exhaust camshaft

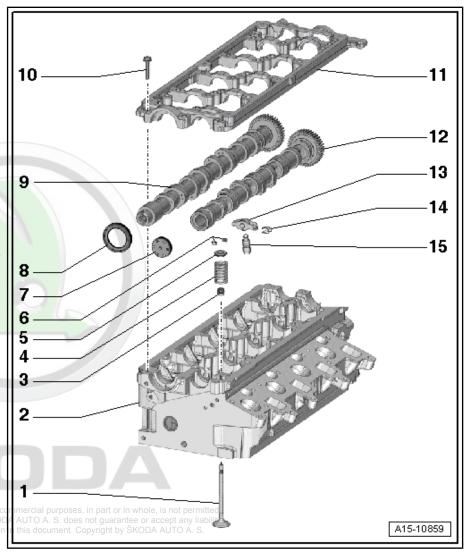
- pay attention to different versions according to production date part number
- □ Removing and installing ⇒ "2.3 Removing and installing camshafts", page 191
- ☐ Measure axial play ⇒ "2.4 Measuring the axial play of the camshafts", page 195

10 - Screw

- ☐ Tightening sequence ⇒ "2.3 Removing and installing camshafts", page 191
- □ 10 Nm

11 - Bearing frame

Pay attention to sequence for loosening and tightening ⇒ "2.3 Removing and installing camshafts", page 191





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□ seal with silicone sealant ⇒ ETKA - Electronic catalogue of original parts

12 - Inlet camshaft

- ☐ Removing and installing ⇒ "2.3 Removing and installing camshafts", page 191
- ☐ Measure axial play ⇒ "2.4 Measuring the axial play of the camshafts", page 195

13 - Roller rocker finger

- Mark installation position
- Do not interchange
- ☐ Check smooth operation of cylindrical-roller bearings
- oil contact surfaces

14 - Locking clip

check for firm seating

15 - Hydraulic supporting element

- Mark installation position
- oil the contact surfaces before installing



2.2 Replacing camshaft sealing ring

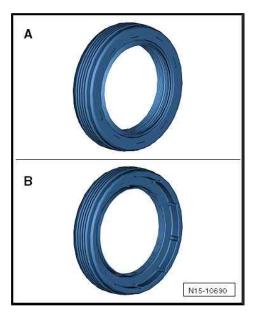
Z.2 Inspirating Carristian Sealing Littly by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability ⇒ "2.2.1 Vehicles with old gasket ring", page 188 with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.

⇒ "2.2.2 Vehicles with new gasket ring", page 189



Note

- A new gasket is used continuously.
- Gasket ring "old version" -Position A- forms a blocking surface between the camshaft and cylinder head.
- Gasket ring "new version" -Position B- forms a shoulder between the camshaft and cylinder head. Here another work procedure must be performed *⇒ "2.2.2 Vehicles with new gasket ring", page 189* .



2.2.1 Vehicles with »old« gasket ring

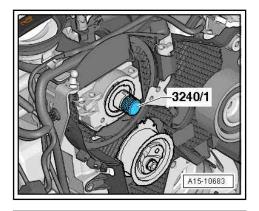
Special tools and workshop equipment required

- ♦ Insertion tool MP 1-214 (10-203)-
- Sealing ring extractor T30003 (3240)-
- Screw M12 x 1.5 x 75 from the insertion tool MP 1-214 (10-203)-

Removing

- Pull toothed belt off camshaft sprocket and from toothed belt gear on the high pressure pump "1.7 Removing and installing toothed belt", page 96
- Remove camshaft sprocket and hub ⇒ "2.3 Removing and installing camshafts", page 191

- Insert thrust piece -T30003/1 (3240/1)- into the camshaft.
- Unscrew inner part of the gasket ring extractor -T30003 (3240)- two turns (approx. 3 mm) out of the outer part and lock with knurled screw.



3240

10-203

- Oil the thread head of the sealing ring extractor, position and fix screw into the sealing ring as far as possible.
- Release knurled screw and turn the inner side against the camshaft until the gasket ring is pulled out.

Installing

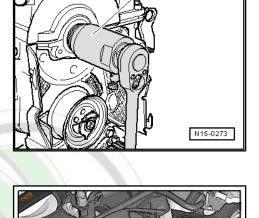
Clean the friction and sealing surface.



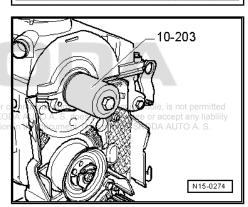
Note

The sealing lip of the gasket ring must neither be oiled nor greased.

- Fit the guide bushing from -MP 1-214 (10-203)- onto the camshaft as shown in the illustration.
- Carefully slide the gasket ring -1- over the guide bushing onto the camshaft.



- Press in the gasket ring with the thrust piece of the insertion tool MP 1-214 (10-203)- and the screw M12 x 1.5 x 75 up to the stop.
- Install the hub and the camshaft sprocket ⇒ "2.3 Removing and installing camshafts", page 191
- Install the toothed belt ⇒ "1.7 Removing and installing toothed belt", page 96



2.2.2 Vehicles with »new« gasket ring

Special tools and workshop equipment required

- ♦ Insertion tool MP1-214 (10-203)-
- Sealing ring extractor T10443-

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Screw M12 x 1.5 x 75 from the insertion tool - MP1-214 (10-203)-

Removing

- Pull toothed belt off camshaft sprocket and from toothed belt gear on the high pressure pump "1.7 Removing and installing toothed belt", page 96
- Remove camshaft sprocket and hub "2.3 Removing and installing camshafts", page 191



Caution

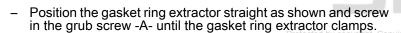
If it is turned back too much, the inner pressure plate of the gasket ring extractor - T10443- loosens from the pressure screw. In this case, the pressure plate must be pressed onto the pressure screw once again.

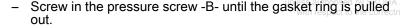
Turn back the pressure screw of the gasket ring extractor »with fingertip touch« until a slight resistance can be felt.



Note

The clamping sleeves of the gasket ring extractor have grub screws. However, the clamping occurs by means of only one of these grub screws -arrow- while the other ones are tightly bolted.





Installing

Clean the friction and sealing surface.

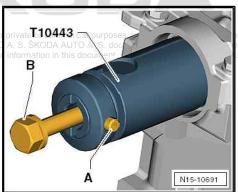


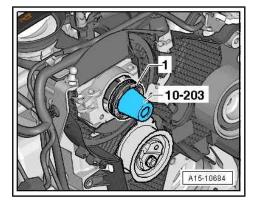
Note

The sealing lip of the gasket ring must neither be oiled nor greased.

- Fit the guide bushing from -MP1-214 (10-203)- onto the camshaft as shown in the illustration. The inscription on the sealing ring points outwards.
- Carefully slide the gasket ring -1- over the guide bushing onto the camshaft.

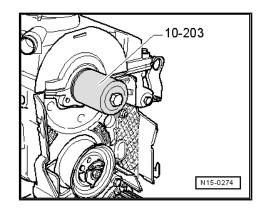








- Press in the sealing ring with the thrust piece of the insertion tool - MP1-214 (10-203)- and the screw M12 x 1.5 x 75 up to the stop.
- Install the hub and the camshaft sprocket ⇒ "2.3 Removing and installing camshafts", page 191.
- Install the toothed belt ⇒ "1.7 Removing and installing toothed belt", page 96.



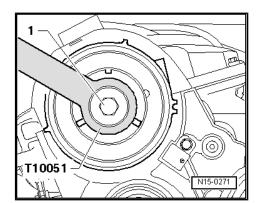
2.3 Removing and installing camshafts

Special tools and workshop equipment required

- ♦ Counterholder T10051-
- ◆ Extractor T10052-
- Camshaft-insertion tool T40094-
- ◆ Camshaft-insertion tool T40095-
- ◆ Clamping device T40096/1-
- Silicone sealant ⇒ ETKA Electronic Catalogue of Original
- Sealant remover Gasket Stripper (stock code GST, stock item No. R 34402), manufacturer Retech s.r.o.
- ◆ Cleaning and degreasing agent, e.g. -D 009 401 04-
- Protective goggles and gloves

Removing

- Cylinder head fitted.
- Pull toothed belt off camshaft sprocket and from toothed belt gear on the high pressure pump ⇒ "1.7 Removing and installing toothed belt", page 96.
- Remove cylinder head cover ⇒ "1.3 Removing and installing cylinder head cover", page 149 .
- Remove camshaft sprocket.
- Slacken screw -1- for the hub of the camshaft, to do so counterhold with counterholder - T10051-.
- Release screw by about 2 turns.





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Position the extractor - T10052- at the hub of the camshaft and screw the screws -1- into the hub.

Screw in the screw -2- for removing the hub of the camshaft and counterhold on the hexagon (with open-end wrench SW 30) of the extractor.

- Remove hub from cone of camshaft.
- Remove vacuum pump ⇒ "1.7 Removing and installing the vacuum pump", page 183
- Loosen the bearing frame screws in the sequence -24- to
- Unscrew the screws and carefully loosen the bearing frame from the bonding.
- Mark the camshafts for reinstalling and remove.

Installing



WARNING

Wear protective gloves and goggles when working with gasket remover and degreasing agent!

- Remove residual sealant on the bearing frame and cylinder head using a chemical sealant remover.
- Clean sealing surfaces, they must be free of oil and grease.
- Oil contact surfaces of camshafts.

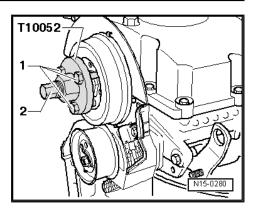


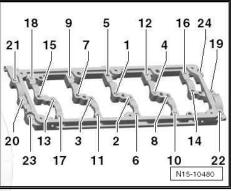
Caution

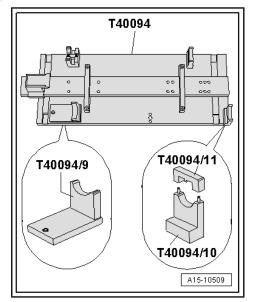
The camshafts must only be installed using the camshaft-insertion tool - T40094- as described in the following, otherwise the axial bearing in the bearing frame can be destroyed and the cylinder head must be replaced.

Set up the camshaft-insertion tool - T40094- as follows:

Tighten the supports -T40094/9- and -T40094/10- (with -T40094/11-) to the base plate as shown in the illustration. It may be necessary to remove the bolted supports in this location.

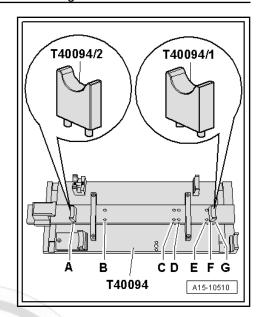






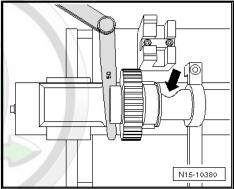


- Position the support -T40094/1- onto the plug location -F- and the support -T40094/2- onto the plug location -A-.
- Insert the inlet camshaft in the supports -T40094/1- and -T40094/2- .



The protrusion -arrow- of the cylinder head bolt must point to the outside.

Fit on a feeler gauge of 0.50 mm in order to balance out any play and slide the support -T40094/8- into the groove of the inlet camshaft.



- Insert the outlet camshaft in the supports -T40094/9- and -T40094/11-.
- Interlock the outlet camshaft with the cover -T40094/11-.
- The peg -1- of the cover must engage in the groove -2- in the camshaft.



Note

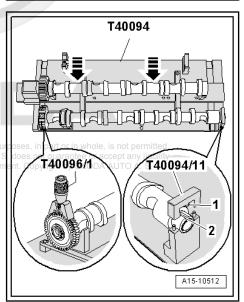
The tensioning gear at the exhaust camshaft is no longer present as of 02.2010.

Engines with tensioning gear

- Position the tensioning tool -T40096/1- on the serration of the outlet camshaft in such a way that each leg of the tensioning tool engages into each one half-pinion.
- The wider leg must engage in the wider half-pinion.
- Tension the tensioning tool with the knurled wheel until the tooth flanks are flush with each other.

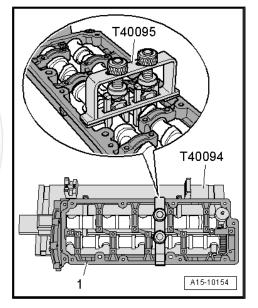
Continued for all engines

Slide the inlet camshaft to the outlet camshaft until the serrations are in mesh.



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- Position the bearing frame -1- onto the camshafts.
- · All of the camshaft bearings must rest on the camshafts.
- Position the camshaft-insertion tool T40095- and fix the camshafts in the bearing frame as shown in the illustration.
- Remove cover -T40094/11- and move support -T40094/8from the groove of the inlet camshaft.





Note

Pay attention to the use by date on sealant.

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 Cut off nozzle tube at the front marking (Ø of nozzle approxy skop 2 mm).



Caution

Risk of contamination of the camshaft bearings through excess sealant.

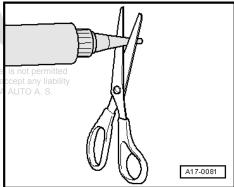
- Do not apply thicker sealant beads than indicated.
- Apply sealant beads onto the clean sealing surfaces of the cylinder head as shown in the illustration.
- Thickness of the sealant beads: 2...3 mm.

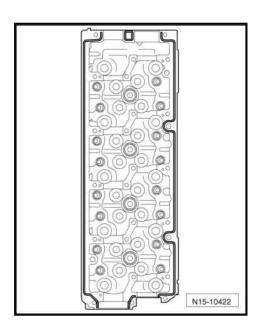


Note

The bearing frame must be installed within 5 minutes after applying the silicone sealant.

 Remove the camshafts together with the bearing frame, the camshaft-insertion tool - T40095- and the tensioning tool -T40096/1- from the camshaft-insertion tool - T40094- and carefully fit into the cylinder head.







- First of all tighten the screws and the nuts for the bearing frame in the sequence -1- to -24- by hand.
- The bearing frame must rest on the cylinder head with its complete contact surface.
- Tighten the screws and the nuts of the bearing frame in the sequence -1- to -24-.
- Remove the camshaft-insertion tool T40095- and the tensioning tool -T40096/1- .

Installation is carried out in the reverse order. When installing, note the following:

- Install camshaft sealing ring ⇒ "2.2 Replacing camshaft sealing ring", page 188
- Drive in new screw cap ⇒ "2.1 Assembly overview - valve gear", page 186 .
- Install vacuum pump ⇒ "1.7 Removing and installing the vacuum pump", page 183 .
- Install cylinder head cover ⇒ "1.3 Removing and installing cylinder head cover" page 149 .



Note

- ◆ After installing the camshafts, the engine must not be cranked or started for about 30 minutes. The hydraulic clearance compensation elements must settle (otherwise the valves would strike the pistons).
- After carrying out work on the valve gear, carefully crank engine at least 2 revolutions to ensure that no valve touches the piston when the engine is started

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- Bearing frame ⇒ "2.1 Assembly overview - valve gear", page 186
- Summary of components ⇒ "1.2 Assembly overview - toothed belt drive", page 66

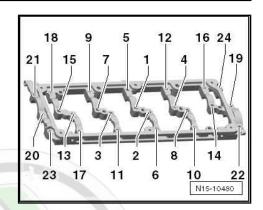
2.4 Measuring the axial play of the camshafts

Special tools and workshop equipment required

- Universal dial gauge bracket MP3-447 (VW 387)-
- ◆ Dial gauge, e.g. VAS 6079-

Work procedure

Remove bearing frame ⇒ "2.3 Removing and installing camshafts", page 191



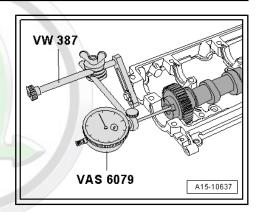
Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ...

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- Attach the dial gauge with the universal dial gauge holder -MP3-447 (VW 387)- to the bearing frame as shown in the
- Press the camshaft by hand against the dial gauge.
- Position dial gauge to "0".
- Press the camshaft off the dial gauge and read the value.

Axial play of inlet camshaft and outlet camshaft:

- Set value: 0.048 0.118 mm
- Wear limit 0.17 mm.



2.5 Checking hydraulic balancing elements



Note

- The hydraulic balancing elements cannot be repaired.
- Irregular valve noises when starting engine are normal.

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Feeler gauge

Test sequence

- Start engine and allow to run until the radiator fan has cut in once.
- Increase engine speed to about 2500 rpm for 2 minutes and conduct a test drive if necessary.



Note

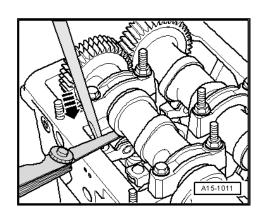
If the irregular valve noises disappear but occur regularly during short journeys, then the oil filter holder -10- must be replaced "1.2 Summary of components - oil filter holder", page 205

- If the hydraulic balancing elements are still loud, determine which is the faulty balancing element as follows:
- Remove cylinder head cover ⇒ "1.3 Removing and installing cylinder head cover",
- Rotate crankshaft on the toothed belt pulley screw until the cam of the compensating element being checked is positioned at the top.
- To determine the clearance between cam and roller rocker finger, press the roller rocker finger down -arrow-.
- If a feeler gauge can be moved by 0.20 mm between the cam and the roller rocker finger, change the hydraulic compensating element

.3 Removing and installing camshafts", page 191.

Installing

Install cylinder head cover ⇒ "1.3 Removing and installing cylinder head cover", page 149





2.6 Replacing valve stem seals

⇒ "2.6.1 Replacing valve stem seals, cylinder head installed", page 197

⇒ "2.6.2 Replacing valve stem seals, cylinder head removed", page 199

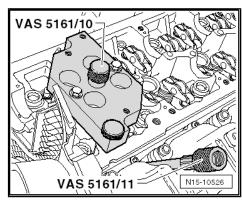
2.6.1 Replacing valve stem seals, cylinder head installed

Special tools and workshop equipment required

- ♦ Valve stem seal extractor MP 1-230 (3364)-
- valve stem seal insertion tool MP 1-233 (3365)-
- Disassembly and assembly device for valve collets VAS 5161- with spacer -VAS 5161/23-1- and guide plate -VAS 5161/23-

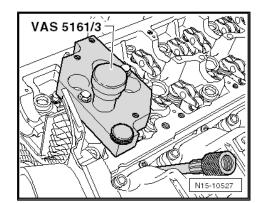
Work procedure

- Remove all glow plugs ⇒ "1.1 Removing and installing, testing glow plugs", page 567
- Remove the camshafts ⇒ "2.3 Removing and installing camshafts", page 191.
- When installing again, mark the assignment of the roller rocker arms and the hydraulic clearance compensation elements.
- Remove the roller rocker arms together with the hydraulic balancing elements and lay aside on a clean surface.
- Put the piston of the relevant cylinder at "bottom dead centre".
- Position the guide plate -VAS 5161/23- onto the cylinder head.
- Screw the guide plate to the side of the intake manifold with the knurled screw -VAS 5161/12- and to the pin screws with 2 nuts M6 without collar -1- by hand until it fits on tightly.
- VAS 5161/23 N15-10525 VAS 5161/12
- Screw the sealing bolt -VAS 5161/10- into the guide plate.
- Screw the adapter -VAS 5161/11- into the relevant pencil type glow plug thread by hand.





 Insert the impact drift -VAS 5161/3- into the guide plate and knock off the tightly fitted valve collets using a plastic hammer.



AS 5161/5

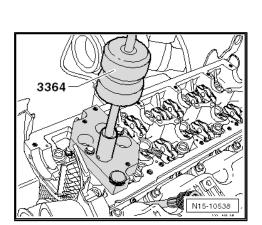
VAS 5161/23-1

VAS 5161/8

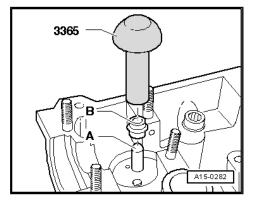
VAS 5161/2

N15-10528

- Screw the detent part -VAS 5161/6- with the interlocking fork -VAS 5161/5- into the guide plate.
- Slide spacer -VAS 5161/23-1- onto the assembly cartridge -VAS 5161/8- .
- Connect the adapter to the compressed air with a commercially available intermediate piece and apply constant pressure.
- · Minimum pressure: 0.6 MPa (6 bar) overpressure.
- Hook the pressure fork -VAS 5161/2- onto the detent part and push the assembly cartridge downwards.
- Turn simultaneously the knurled screw of the assembly cartridge to the right, until the tips click into the valve collets.
- Rotate the knurled screw to the left and to the right, by doing so the valve collets are pressed apart and are installed in the transplant assembly cartridge. The street of information in this document. Copyright by SKODA AUTO A. S.
- Release the pressure fork.
- Remove assembly cartridge with spacer.
- Remove the valve spring with the valve spring retainer.
- Pull off valve stem seal with the valve steam seal extractor -3364-.



- Fit the plastic bushing -A-, which is attached to the new valve stem seals -B-, onto the valve stem.
- Lightly oil sealing lip of the new valve stem seal.
- Slide the valve stem seal onto the plastic bushing.
- Carefully press the valve stem seal with the valve stem seal insertion tool - 3365- onto the valve guide.
- Remove plastic sleeve.







If the valve collets were removed from the assembly cartridge, first of all they must be inserted into the insertion device -VAS 5161/18-.

- The large diameter of the valve collets points to the top.
- Insert the valve spring and the valve spring retainer.
- Press the assembly cartridge from the top onto the insertion device for valve collets and lift up the valve collets.
- Re-insert the assembly cartridge into the guide plate -VAS 5161/23- .
- Press down the pressure fork and turn the knurled screw to the left while pulling it upwards, by doing so the valve collets

Release the pressure fork on tightened knurled screw.

Repeat the procedure for each valve.

Assembling

Assembly is carried out in the reverse order. When installing, observe the following:

Ensure that all the roller arms are correctly positioned on the valve stem ends and are clipped in place on the relevant hydraulic balancing elements.

- Install camshafts <u>"2.3 Removing and installing camshafts"</u>, page 191.
- Install glow plugs ⇒ "1.1 Removing and installing, testing glow plugs", page 567

2.6.2 Replacing valve stem seals, cylinder head removed

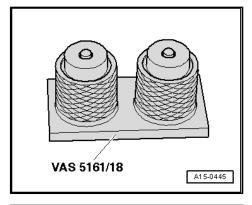
Special tools and workshop equipment required

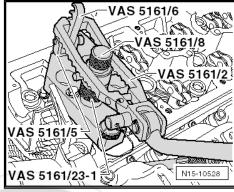
- Valve stem seal extractor MP 1-230 (3364)-
- valve stem seal insertion tool MP 1-233 (3365)-
- Disassembly and assembly device for valve collets VAS 5161- with guide plate -VAS 5161/23- and sleeve -VAS 5161/23-1-
- Engine and gearbox mount VAS 6095-
- Cylinder head tensioning device VAS 6419-
- ♦ 2x screw M6 x 30

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Work procedure

- Remove camshaft housing ⇒ "2.3 Removing and installing camshafts", page 191
- When installing again, mark the assignment of the roller rocker arms and the hydraulic clearance compensation elements.
- Remove the roller rocker arms together with the hydraulic balancing elements and lay aside on a clean surface.
- Insert the cylinder head tensioning device VAS 6419- into the engine and gearbox jack - VAS 6095- .



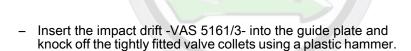


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Tension cylinder head in the cylinder head tensioning device
 VAS 6419- according to the Owner's Manual.

The cylinder head tensioning device - VAS 6419- Owner's Manual is with the device.

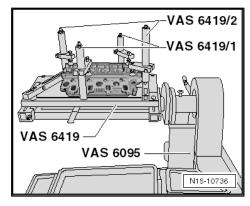
- Connect cylinder head tensioning device to compressed air.
- Adjust the air bellows with the lever below the combustion chamber on which the valve stem seals should be removed.
- Allow just enough air to flow into the air bag so that it applied to the valve disc.
- Position the guide plate -VAS 5161/23- onto the cylinder head.
- Screw on guide plate with knurled screw -VAS 5161/12- and 2 M6 x 30 screws hand-tight until contact is made.

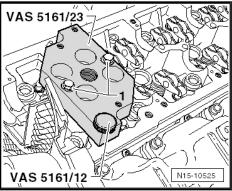


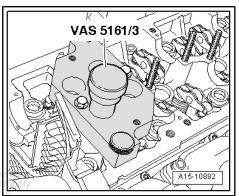


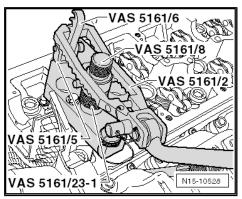
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- Screw the detent part -VAS 5161/6- with the interlocking fork -VAS 5161/5- into the guide plate.
- Slide spacer -VAS 5161/23-1- onto the assembly cartridge -VAS 5161/8- .
- Hook the pressure fork -VAS 5161/2- onto the detent part and push the assembly cartridge downwards.
- Turn simultaneously the knurled screw of the assembly cartridge to the right, until the tips click into the valve collets.
- Rotate the knurled screw to the left and to the right, by doing so the valve collets are pressed apart and are installed in the assembly cartridge.
- Release the pressure fork.
- Remove assembly cartridge with spacer.
- Remove the valve spring with the valve spring retainer.











Pull off valve stem seal with the valve steam seal extractor -3364- .

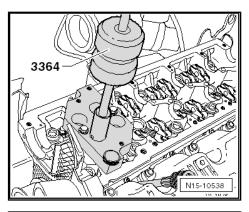


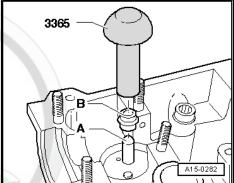
Caution

Risk of damage when installing the valve stem seals.

Fit the plastic bushing -A-, which is attached to the new valve stem seals -B-, onto the valve stem.

- Lightly oil sealing lip of the new valve stem seal.
- Slide the valve stem seal onto the plastic bushing.
- Carefully press the valve stem seal with the valve stem seal insertion tool - 3365- onto the valve guide.
- Remove plastic sleeve.





If the valve collets were removed from the assembly cartridge, first of all they must be inserted into the insertion device -VAS 5161/18-.

- The large diameter of the valve collets points to the top.
- Insert the valve spring and the valve spring retainer.
- Press the assembly cartridge from the top onto the insertion device for valve collets and lift up the valve collets.

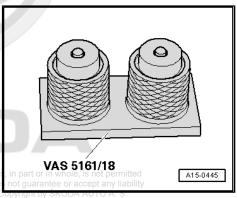
- Re-insert the assembly cartridge into the guide plate -VAS 5161/23-.
- Press down the pressure fork and turn the knurled screw to the left and to the right while pulling it upwards, by doing so the valve collets are inserted.
- Release the pressure fork on tightened knurled screw.
- Repeat the procedure for each valve.

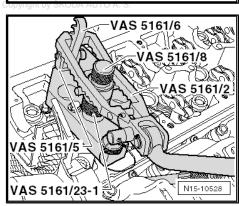
Assembling

Installation is carried out in the reverse order. When installing, observe the following:

Ensure that all the roller arms are correctly positioned on the valve stem ends and are clipped in place on the relevant hydraulic balancing elements.

Install camshafts ⇒ "2.3 Removing and installing camshafts", page 191.





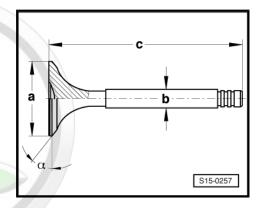


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2.7 Valve dimensions

For engine with identification characters CAYA, CAYB, CAYC,

Dimension		Inlet valve	Exhaust valve
Ø a	mm	26.50 26.70	24.40 24.60
Ø b	mm	5.968 - 5.982	5.958 5.972
С	mm	99.30	99.10
α	∠°	45	45





Note

Valves must not be reworked. Only lapping-in is permitted.

For engine with identification characters CWXB, CWXC

Dimension		Inlet valve	Exhaust valve
Ø a	mm	24.00 24.20	21.90 22.10
Ø b	mm	5.968 - 5.982	5.958 5.972
С	mm	Protecte 99,30 yright. Cop	ying for pri 99.10 mmercial
α	∠°	with res. to the correct	ness of inforr 45 on in this doc



Note

Valves must not be reworked. Only lapping-in is permitted.

2.8 inspecting valve guides

Special tools and workshop equipment required

- ◆ Universal dial gauge bracket MP 3-447 (VW 387)-
- Dial gauge

Test sequence



Note

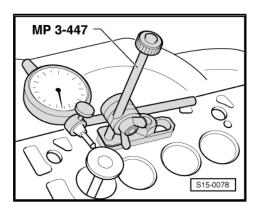
If the valves are replaced when carrying out repair work, use new valves for the measurement.

- Insert valve into valve guide. End of valve stem must be flush with guide.
- Valve rock: maximum 1.3 mm



Note

If the wear limit is exceeded, repeat measurement with new valves. If the wear limit is again exceeded, replace cylinder head. The valve guides cannot be changed.



17 – Lubrication

Removing and installing parts of the **lubrication** system

- ⇒ "1.1 Summary of components removing and installing parts of the lubrication system", page 203
- ⇒ "1.2 Summary of components oil filter holder", page 205
- ⇒ "1.3 Summary of components oil feed line, oil return line and exhaust gas turbocharger support", page 207
- ⇒ "1.4 Removing and installing oil level and oil temperature sender G266 ", page 210
- ⇒ "1.5 Removing and installing the oil filter holder with the engine oil cooler", page 211
- ⇒ "1.6 Removing and installing engine oil cooler", page 217
- ⇒ "1.7 Removing and installing oil pressure switch F1", page 219
- ⇒ "1.8 Removing and installing oil pan", page 220
- ⇒ "1.9 Removing and installing oil pump", page 227
- ⇒ "1.10 Testing oil pressure and oil pressure switch", page 228
- 1.1 Summary of components - removing and installing parts of the lubrication system



Note

- Replace bolts / nuts that are tightened at an angle of rotation. as well as replacement components after removal.
- If considerable quantities of metal swarf as well as abrasion is found in the engine oil when carrying out engine repairs, carefully clean the oil galleries in order to avoid consequential damage and additionally replace the oil injection nozzles and the engine oil cooler as well as the oil filter element.
- Oil spray nozzle and pressure relief valve ⇒ page 138





1 - Oil level and oil temperature transmitter - G266-

Check ⇒ Vehicle diagnostic tester.

2 - O-ring

☐ Replace after disassembly

3 - Drain plug

- with integrated sealing
- ☐ Replace after disassembly
- □ 30 Nm

4 - Sealing ring

Component part of the drain plug

5 - Screw

□ Tightening torque and tightening order ⇒ "1.8 Removing and installing oil pan", page 220

6 - Oil pan

- □ Removing and installing ⇒ "1.8 Removing and installing oil pan", page 220
- install with silicone sealant ⇒ ETKA - Electronic catalogue of original parts

7 - Screw

□ 16 Nm

8 - Oil pump

- □ before installing, check whether both dowel sleeves are present
- ☐ if there is any scoring on the contact surfaces of the gears, replace
- ☐ Tightening torque of oil pump cover at oil pump housing: 10 Nm

9 - Toothed belt for oil pump



Note

Do not kink or twist the toothed belt or damage it with sharp edges!

☐ Check for wear and damage, replace if necessary

10 - Dowel sleeves

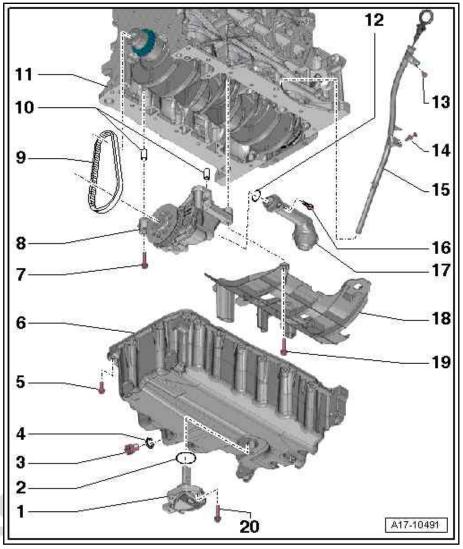
11 - Cylinder block

12 - O-ring

□ Replace after disassembly

13 - Screw

□ 9 Nm



- 14 Retaining clip
- 15 Guide tube for oil dipstick
- 16 Screw
 - □ 9 Nm
- 17 Oil suction pipe
 - Clean strainer if dirty
- 18 Baffle
- 19 Screw
 - □ 16 Nm
- 20 Screw
 - self-locking
 - □ Replace after disassembly
 - □ 9 Nm
- 1.2 Summary of components - oil filter hold-



Note

- Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.
- ♦ If considerable quantities of metal swarf as well as abrasion is found in the engine oil when carrying out engine repairs, carefully clean the oil galleries in order to avoid consequential damage and additionally replace the oil injection nozzles and the engine oil cooler as well as the oil filter element.
- Oil spray nozzle and pressure relief valve ⇒ page 138.



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1 - Screw cap

- ☐ slacken and tighten with oil filter wrench - 3417-

2 - O-ring

□ Replace after disassembly

3 - O-ring

□ Replace after disassembly

4 - O-ring

☐ Replace after disassembly

5 - Insert

- pull off from cap . -Pos. 1-
- when replacing the oil filter element, replace the O-rings Pos. -2-, -3and -4-
- Check fitting position
- Pay attention to change intervals:
- ⇒ Maintenance ; Booklet Fabia II
- ⇒ Maintenance ; Booklet Roomster
- ⇒ Maintenance ; Booklet Octavia II
- ⇒ Maintenance ; Booklet Superb II
- ⇒ Maintenance ; Booklet Yeti
- ⇒ Maintenance ; Booklet Rapid Indie
- ⇒ Maintenance ; Booklet Rapid NH .

6 - Engine oil cooler

☐ Connection diagram for coolant hoses <u>⇒ "1.1 Connection diagram for coolant hoses"</u>, page 230

7 - Screw

□ 11 Nm

8 - Seal

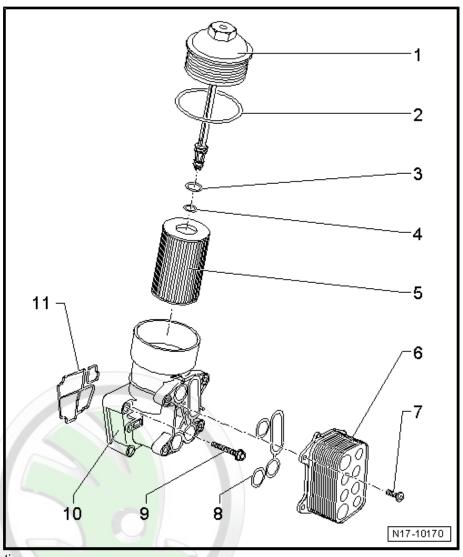
Replace after disassembly

9 - Screw

- □ Replace after disassembly
- □ tighten crosswise
- ☐ Tightening torques and tightening order <u>⇒ page 207</u>

10 - Oil filter holder

- with integrated return-flow check tube
- cannot be replaced individually
- Removing and installing
 - ⇒ "1.5 Removing and installing the oil filter holder with the engine oil cooler", page 211



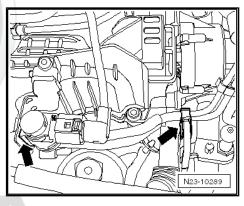
11 - Seal

□ Replace after disassembly



Note

To change the oil filter, unclip the vacuum lines -arrows- and lay them aside.



Oil filter holder, tightening torques and tightening sequence



Note

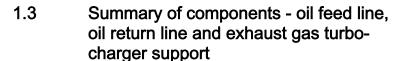
Replace screws for oil filter holder.

- First of all insert the screw at the top left and at the bottom
- Tighten the screws in two stages:

Step	Bolts	Torque/torquing angle
1.	-Arrows-	14 Nm
2.	-Arrows-	Turn 180° further

Oil pressure switch - F1-

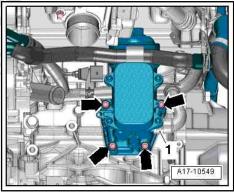
- with sealing ring
- Replace gasket rings
- Switching pressure: 0.03 0.06 MPa (0.3 0.6 bar)
- Removing and installing "1.7 Removing and installing oil pressure switch F1", page
- ♦ Check ⇒ "1.10 Testing oil pressure and oil pressure switch", page 228.
- ♦ 20 Nm

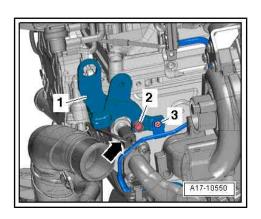


⇒ "1.3.1 Summary of components - oil feed line, oil return line and exhaust gas turbocharger support, Fabia II, Roomster, Rapid In-<u>dia, Rapid NH", page 207</u>

⇒ "1.3.2 Summary of components - oil feed line, oil return line and exhaust gas turbocharger support, Octavia II, Superb II, Yeti", page 209

1.3.1 Summary of components - oil feed line, oil return line and exhaust gas turbo-







charger support, Fabia II, Roomster, Rapid India, Rapid NH



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

1 - Screw

- ☐ Replace after disassembly
- □ 14 Nm

2 - Union nut

- for oil feed line at exhaust gas turbocharger
- □ 22 Nm

3 - Oil feed line

□ Removing and installing ⇒ "1.2.1 Removing and installing exhaust gas turbocharger, Fabia II, Roomster, Rapid India, Rapid NH", page 390

4 - Oil return-flow line

 Replace seal after removal

5 - Screw

☐ 14 Nm

6 - Nut

- Replace after disassembly
- □ 22 Nm

7 - Connecting pipe

- to radiator for exhaust gas recirculation
- Replace seal after removal

8 - Screw

□ 10 Nm

9 - Support for exhaust gas turbocharger

□ Removing and installing ⇒ "1.2.1 Removing and installing exhaust gas turbocharger, Fabia II, Roomster, Rapid India, Rapid NH", page 390

10 - hollow bolt

- Replace after disassembly
- □ 60 Nm

11 - hollow bolt

- □ Replace after disassembly
- □ Replace sealing rings after removal
- □ 30 Nm

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12 - Screw

□ 9 Nm

1.3.2 Summary of components - oil feed line, oil return line and exhaust gas turbocharger support, Octavia II, Superb II, Yeti



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

1 - Screw

- ☐ Replace after disassembly
- 14 Nm

2 - Oil feed line

□ Removing and installing ⇒ "1.2.2 Removing and installing exhaust gas turbocharger, Octavia II, Superb II, Yeti", page 396

3 - Oil return-flow line

☐ Replace seal after removal

4 - Screw

□ 14 Nm

5 - Nut

- ☐ Replace after disassembly
- □ 22 Nm

6 - Connecting pipe

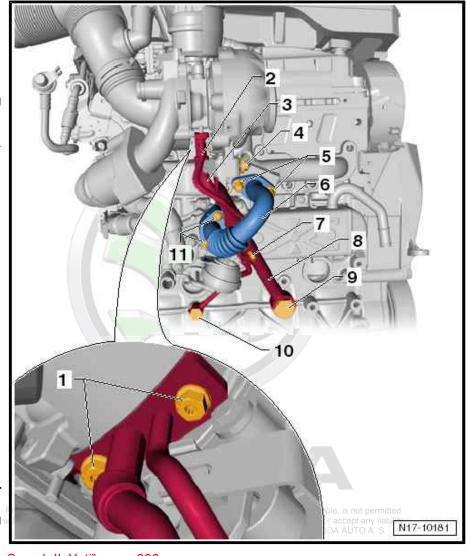
- to radiator for exhaust gas recirculation
- ☐ Replace seal after removal

7 - Screw

□ 10 Nm

8 - Support for exhaust gas turbocharger

□ Removing and installing ⇒ "1.2.2 Removing and | installing exhaust gas turbocharger, Octavia II, Superb II, Yeti", page 396



9 - hollow bolt

- □ Replace after disassembly
- For vehicles with four-wheel drive, the flange shaft to the right of the angle gearbox must be removed for removal and installation ⇒ Chassis; Rep. gr. 40
- □ 60 Nm



10 - hollow bolt

- □ Replace after disassembly
- ☐ Replace sealing rings after removal
- □ 30 Nm

11 - Screw

□ 9 Nm

1.4 Removing and installing oil level and oil temperature sender - G266-

Removing

- Drain engine oil:
- ♦ ⇒ Maintenance ; Booklet Fabia II .
- ♦ ⇒ Maintenance; Booklet Roomster.
- ◆ ⇒ Maintenance ; Booklet Octavia II .
- ♦ ⇒ Maintenance ; Booklet Superb II .
- ♦ ⇒ Maintenance ; Booklet Yeti .
- ♦ ⇒ Maintenance ; Booklet Rapid Indie .
- ♦ ⇒ Maintenance; Booklet Rapid NH.





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- Disconnect electrical plug connection -3-.
- Release screws -1- and remove oil level and oil temperature sender - G266- -4-.

Installing

Assembly is carried out in the reverse order. When installing, observe the following:



Note

Replace gasket ring -2- and screws -1-.

- Top up with engine oil and check the oil level:
- ⇒ Maintenance; Booklet Fabia II.
- ⇒ Maintenance; Booklet Roomster.
- ⇒ Maintenance ; Booklet Octavia II .
- ⇒ Maintenance ; Booklet Superb II .
- ⇒ Maintenance; Booklet Yeti.
- ⇒ Maintenance ; Booklet Rapid Indie .
- ♦ ⇒ Maintenance; Booklet Rapid NH.

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

Oil level and oil temperature sender - G266-1.1 Summary of components - removing and installing parts of the lubrication system", page 203.

1.5 Removing and installing the oil filter orrectness of information in this document. Copyright by ŠKODA AUTO A. S. holder with the engine oil cooler

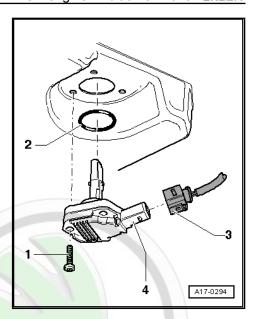
⇒ "1.5.1 Removing and installing oil filter holder with engine oil cooler, Fabia II, Roomster, Rapid India, Rapid NH", page 211

⇒ "1.5.2 Removing and installing oil filter holder with engine oil cooler, Octavia II, Superb II, Yeti", page 214

1.5.1 Removing and installing oil filter holder with engine oil cooler, Fabia II, Roomster, Rapid India, Rapid NH

Special tools and workshop equipment required

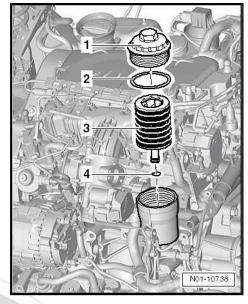
- ♦ Assembly tool T10118-
- Catch pan , e.g. -VAS 6208-
- ♦ Removal tool for inner lining of the door panel T10263-
- Old oil collecting and suction equipment, e.g. -V.A.G 1782-
- Pliers for spring-type clips



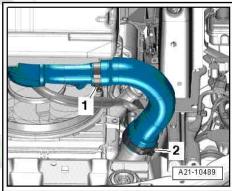


Removing

- Remove engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11.
- Drain coolant ⇒ "1.2 Draining and filling coolant", page 236.
- Remove oil filter insert -3-:
- ⇒ Maintenance ; Booklet Fabia II .
- ⇒ Maintenance : Booklet Roomster .
- ⇒ Maintenance; Booklet Rapid Indie.
- ⇒ Maintenance ; Booklet Rapid NH .

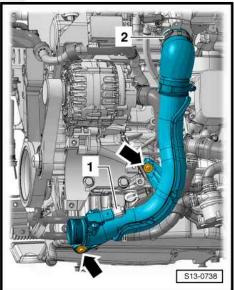


Remove the charge air hose, to do so slacken the hose clamps -1- and -2-.



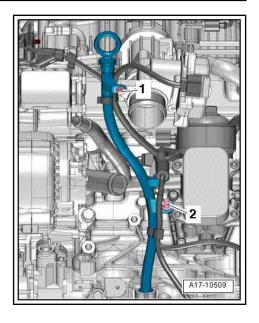
- Unscrew screws -arrows-.
- Loosen hose clamp -2-.
- Disconnect the plug -1- at the charge pressure sender G31-with intake air temperature sender G42- and remove the right charge air pipe.







- Slightly pull out oil dipstick, unscrew screw -1-.
- Press off clip -2- with removal tool for the door panel -T10263- .
- Pull out the oil dipstick guide pipe upwards out of the cylinder block and push it to the side.
- Position the catch pan , e.g. -VAS 6208- , under the engine.







- Remove coolant hose to do so, undo the hose clamp -1-.
- Place an old oil collecting and suction equipment V.A.G 1782- under the engine.
- Release screws -arrows- and remove oil filter holder with engine oil cooler.

Installing

Assembly is carried out in the reverse order. When installing, observe the following:



Note

- ♦ Replace gaskets, gasket rings and O-rings.
- Hose connections as well as charge air pipes and charge air hoses must be free of oil and grease before being installed.
- Secure all hose connections with specified clamps ⇒ ETKA -Electronic Catalogue of Original Parts .
- ◆ Observe the assembly instruction for hose connections with screw clamps
 ⇒ "2.3 Hose connections with screw clamps", page 414.
- Install oil filter insert, fill with engine oil and check the oil level:
- ♦ ⇒ Maintenance ; Booklet Fabia II .
- ♦ ⇒ Maintenance; Booklet Roomster.
- ♦ ⇒ Maintenance ; Booklet Rapid Indie .
- ◆ ⇒ Maintenance ; Booklet Rapid NH .
- Top up and/or change coolant if the engine oil cooler was replaced ⇒ "1.2 Draining and filling coolant", page 236.

Tightening torques - summaries of components



Note

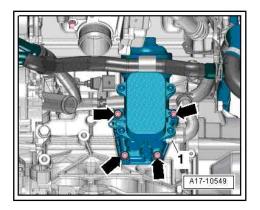
Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- ◆ Oil filter holder with engine oil cooler
 ⇒ "1.2 Summary of components oil filter holder", page 205
- Screws for charge air pipes
 ⇒ "2.1.1 Summary of components Charge air cooler, Fabia II, Roomster, Rapid India, Rapid NH", page 409
- ◆ Screw for oil dipstick ⇒ "1.1 Summary of components - removing and installing parts of the lubrication system", page 203.

1.5.2 Removing and installing oil filter holder with engine oil cooler, Octavia III, Superbumercial purposes, in part or in whole, is not permit unless authorised by Skolda AUTO A. S. Roda AUTO A. S. does not guarantee or accept any liab with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.

Special tools and workshop equipment required

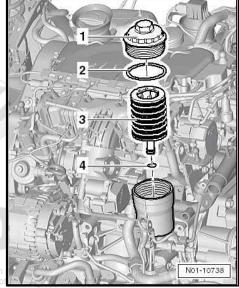
- Assembly tool T10118-
- Catch pan , e.g. -VAS 6208-
- Removal tool for inner lining of the door panel T10263-



- ♦ Old oil collecting and suction equipment , e.g. -V.A.G 1782-
- ♦ Pliers for spring-type clips

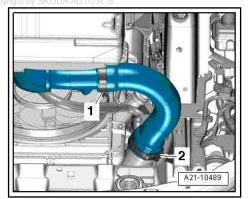
Removing

- Drain coolant ⇒ "1.2 Draining and filling coolant", page 236.
- Remove air filter housing ⇒ "3.5 Removing and installing air filter", page 479 .
- Remove oil filter insert -3-:
- ⇒ Maintenance ; Booklet Octavia II .
- ⇒ Maintenance ; Booklet Superb II .
- ⇒ Maintenance ; Booklet Yeti .

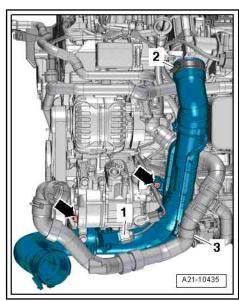




Remove the charge air hose, to do so slacken the hose clamps -1- and -2-.

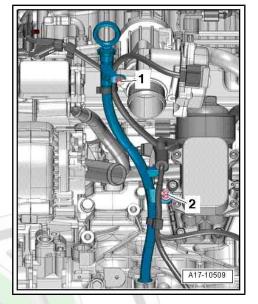


- Unscrew screws -arrows-.
- Detach coolant hose -3-.
- Loosen hose clamp -2-.
- Disconnect the plug -1- at the charge pressure sender G31-with intake air temperature sender G42- and remove the right charge air pipe.





- Slightly pull out oil dipstick, unscrew screw -1-.
- Press off clip -2- with removal tool for the door panel -T10263-.
- Pull out the oil dipstick guide pipe upwards out of the cylinder block and push it to the side.
- Position the catch pan, e.g. -VAS 6208-, under the engine.







- Remove coolant hose to do so, undo the hose clamp -1-.
- Place an old oil collecting and suction equipment V.A.G 1782- under the engine.
- Screw out screws -arrows- and remove oil filter holder with engine oil cooler.

Installing

Assembly is carried out in the reverse order. When installing, observe the following:



Note

- Replace gaskets, gasket rings and O-rings.
- Hose connections as well as charge air pipes and charge air hoses must be free of oil and grease before being installed.
- Secure all hose connections with specified clamps ⇒ ETKA -Electronic Catalogue of Original Parts .
- Observe the assembly instruction for hose connections with screw clamps ⇒ "2.3 Hose connections with screw clamps", page 414.
- Install oil filter insert, fill with engine oil and check the oil level:
- ⇒ Maintenance ; Booklet Octavia II .
- ⇒ Maintenance ; Booklet Superb II .
- ⇒ Maintenance ; Booklet Yeti .
- Top up and/or change coolant if the engine oil cooler was replaced ⇒ "1.2 Draining and filling coolant", page 236.

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

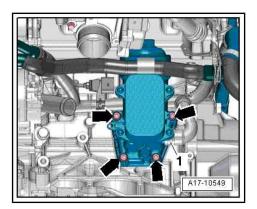
- Oil filter holder with engine oil cooler ⇒ "1.2 Summary of components of filter holder", page 205

 AUTO A. S.
- Screws for charge air pipes <u> "2.1.2 Summary of components - Charge air cooler, Octavia</u> II, Superb II, Yeti", page 410 .
- Screw for oil dipstick 1.1 Summary of components - removing and installing parts of the lubrication system", page 203.

1.6 Removing and installing engine oil cool-

Special tools and workshop equipment required

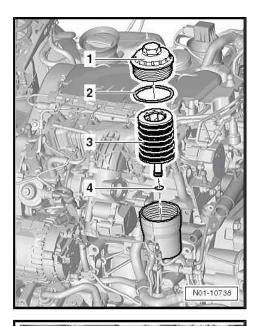
- ◆ Catch pan , e.g. -VAS 6208-
- Old oil collecting and suction equipment, e.g. -V.A.G 1782-
- Pliers for spring-type clips





Removing

- Remove engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11.
- Drain coolant <u>⇒ "1.2 Draining and filling coolant"</u>, page 236.
- Remove air filter housing ⇒ "3.5 Removing and installing air filter", page 479.
- Remove oil filter insert -3-:
- ⇒ Maintenance ; Booklet Fabia II .
- ⇒ Maintenance; Booklet Roomster.
- ⇒ Maintenance ; Booklet Octavia II .
- ⇒ Maintenance ; Booklet Superb II .
- ⇒ Maintenance : Booklet Yeti .
- ⇒ Maintenance; Booklet Rapid Indie.
- ⇒ Maintenance; Booklet Rapid NH.



- Unscrew screws -arrows-.
- Take the engine oil cooler out of the housing.

Installing

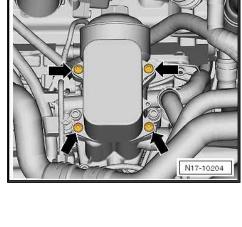
Assembly is carried out in the reverse order. When installing, observe the following:

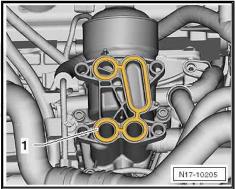


Note

- Replace gaskets, gasket rings and O-rings.
- Hose connections as well as charge air pipes and charge air hoses must be free of oil and grease before being installed.
- The hose connections are secured with spring-type clips. In the event of repairs only use spring-type clips.
- Insert new gaskets -Pos. 8-"1.2 Summary of components - oil filter holder", page 205 -1- in the supports of the oil filter holder.
- Carefully position the engine oil cooler onto the dowel sleeves.

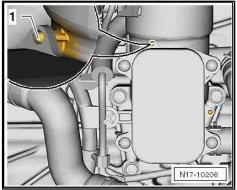








- Push the engine oil cooler on the ends of the dowel sleeves
- Insert new screws and screw in up to the stop.



Tighten the screws -arrows- crosswise in 3 stages:

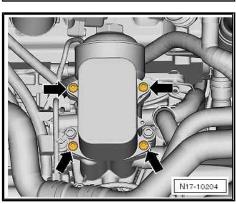
Step	Bolts	Tightening torque
1.	-Arrows-	only tighten by hand
2.	-Arrows-	5 Nm
3.	-Arrows-	11 Nm

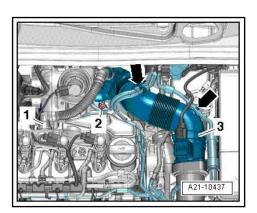
- Install oil filter insert, fill with engine oil and check the oil level:
- ⇒ Maintenance ; Booklet Fabia II .
- ⇒ Maintenance; Booklet Roomster.
- ⇒ Maintenance ; Booklet Octavia II .
- ⇒ Maintenance ; Booklet Superb II .
- ⇒ Maintenance ; Booklet Yeti .
- ⇒ Maintenance ; Booklet Rapid Indie .
- ⇒ Maintenance ; Booklet Rapid NH .
- Top up and/or change coolant if the engine oil cooler was replaced ⇒ "1.2 Draining and filling coolant", page 236.

1.7 Removing and installing oil pressure switch - F1-

Removing

- Remove engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11.
- Remove the hose for the crankcase ventilation -1-, to do so press together the release buttons.
- Release vacuum hoses -arrows-.
- Slacken hose clamp -3- and remove air guide pipe from air filter housing.
- Release screw -2-, swivel intake hose with connection fitting towards the rear and detach from exhaust gas turbocharger.





- Release screws -2- and -3- and remove engine lifting eye
- Disconnect plug connection -arrow-.
- Screw out oil pressure switch F1-.

Installing

Assembly is carried out in the reverse order. When installing, observe the following:



Note

Replace sealing ring.

- Install inlet connection.
- Install vacuum line.

Tightening torques - summaries of components

Oil pressure switch - F1-⇒ "1.2 Summary of components - cylinder head", page 146.

1.8 Removing and installing oil pan

⇒ "1.8.1 Removing and installing sump, Fabia II, Roomster, Rapid India, Rapid NH", page 220

⇒ "1.8.2 Removing and installing sump, Octavia II, Superb II, Yeti", page 223

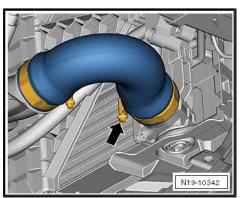
1.8.1 Removing and installing sump, Fabia II, Roomster, Rapid India, Rapid NH

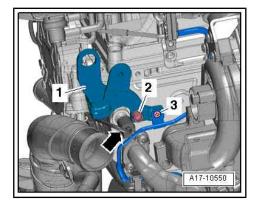
Special tools and workshop equipment required

- Socket T10058-
- Old oil collecting and suction equipment, e.g. -V.A.G 1782-
- Silicone sealant ⇒ ETKA Electronic Catalogue of Original **Parts**
- Sealant remover gasket stripper (bearing code GST, bearing article no. R 34402), manufacturer Retech s.r.o.
- Cleaning and degreasing agent, e.g. -D 009 401 04-
- Protective goggles and gloves

Removing

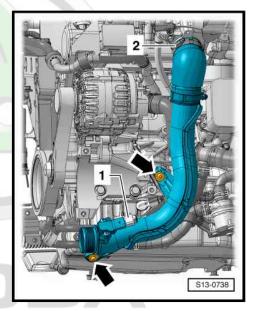
- Remove the sound dampening system ⇒ Body Work; Repot guarantee or accept any liability gr. 50.
- Remove right charge air hose.



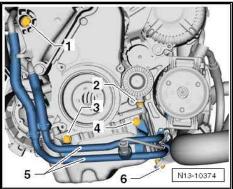




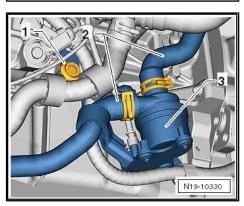
- Release screws -arrows-, push the right charge air pipe slightly to the side.
- Loosen hose clamp -2-.
- Disconnect the plug -1- at the charge pressure sender G31-with intake air temperature sender G42- and remove the right charge air pipe.



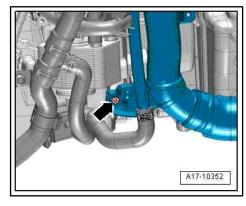
- Unscrew screws -3-, -4-.



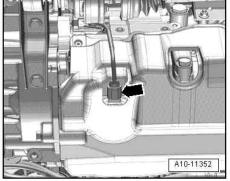
Unscrew screw -1- and press recirculation pump 2 - V178--3- (if present) to the side.



- Unscrew screw -arrow- on the left charge air pipe.



Disconnect connector -arrow- from oil level and oil temperature sender - G266- .



- Remove noise insulation of oil pan -1-, to do so slacken the fixing parts -arrows-.
- Suction off engine oil -V.A.G 1782- with old oil collecting and suction equipment:
- ⇒ Maintenance; Booklet Fabia II.
- ⇒ Maintenance ; Booklet Roomster .
- ⇒ Maintenance; Booklet Rapid Indie
- ⇒ Maintenance; Booklet Rapid NH.



- Loosen screws -1- to -20- crosswise and remove.
- Remove oil pan, if necessary release by applying slight blows with a rubber-headed hammer.

Installing

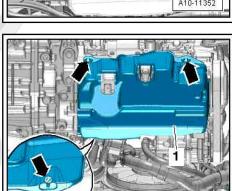
Assembly is carried out in the reverse order. When installing, observe the following:



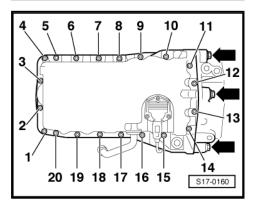
WARNING

Wear protective gloves and goggles when working with gasket remover and degreasing agent?

- Remove residual sealant from the sealing surfaces on the cylinder block and on the oil pan with chemical sealant remover.
- Degrease the sealing surfaces.
- Cut off nozzle tube at the front marking (\emptyset of nozzle approx. 3 mm).



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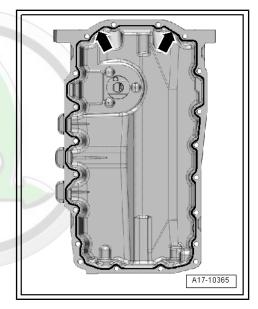


- Apply silicone sealant bead -arrow- to the clean sealing surface of the oil pan, as shown.
- Thickness of sealant bead: 2-3 mm.



Note

- The sealant bead must not be thicker than 3 mm. Otherwise, excess sealant may get into the oil pan and clog the strainer in the oil suction pipe.
- Take particular care when applying the sealant bead in the area of the sealing flange on the gearbox side -arrows-.
- The oil pan must be installed within 5 minutes after applying the silicone sealant .



- Fit on oil pan immediately and tighten the bolts as follows:

Step	Bolts	Tightening torque
1.	-1- to -20-	crosswise, 5 Nm
2.	-Arrows-	40 Nms authorised by ŠKODA AUTO A. S. ŠKODA A
3.	-1- to -20-	crosswise, 13 Nm



Note

- When installing the oil pan with the engine removed, ensure that the oil pan is flush with the cylinder block at the flywheel side.
- Let sealant dry for approx. 30 minutes after installing oil sump. Only then fill with engine oil.
- Fill with engine oil and check the oil level:
- ⇒ Maintenance; Booklet Fabia II.
- ⇒ Maintenance; Booklet Roomster.
- ⇒ Maintenance ; Booklet Rapid Indie .
- ♦ ⇒ Maintenance; Booklet Rapid NH.

Tightening torques - summaries of components



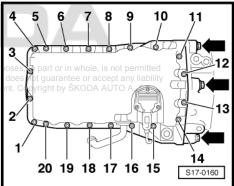
Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

Screws for charge air pipes ⇒ "2.1.1 Summary of components - Charge air cooler, Fabia II, Roomster, Rapid India, Rapid NH", page 409

1.8.2 Removing and installing sump, Octavia II, Superb II, Yeti

Special tools and workshop equipment required

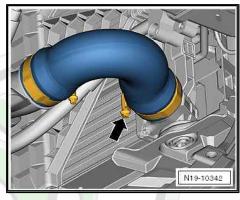




- Socket T10058-
- Old oil collecting and suction equipment, e.g. -V.A.G 1782-
- Silicone sealant ⇒ ETKA Electronic Catalogue of Original
- Sealant remover Gasket Stripper (stock code GST, stock item No. R 34402), manufacturer Retech s.r.o.
- Cleaning and degreasing agent, e.g. -D 009 401 04-
- Protective goggles and gloves

Removing

- Remove the sound dampening system ⇒ Body Work; Rep. gr. 50.
- Remove the right wheelhouse liner bottom part ⇒ Body Work; Rep. gr. 66.
- Remove right charge air hose.



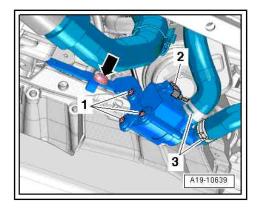
- Unscrew screws -arrows-.
- Detach coolant hose -3-.
- Disconnect plug -1- at charge pressure sender G31- with intake air temperature sender - G42- .
- Slacken the hose clamp -2- and push the charge air pipe to the right.



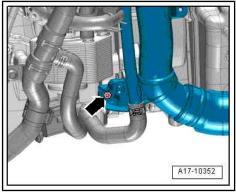




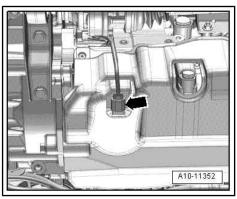
Unscrew screw -arrow- and push the coolant recirculation pump 2 - V178- to the side.



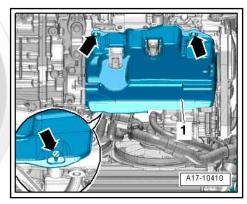
- Unscrew screw -arrow- on the left charge air pipe.



Disconnect connector -arrow- from oil level and oil temperature sender - G266-.



- Remove noise insulation of oil pan -1-, to do so slacken the fixing parts -arrows-.
- Suction off engine oil -V.A.G 1782- with old oil collecting and suction equipment:
- ⇒ Maintenance ; Booklet Octavia II .
- ⇒ Maintenance ; Booklet Superb II .
- ⇒ Maintenance ; Booklet Yeti .







- Unscrew the bolts of oil pan/gearbox -arrows-.
- Loosen screws -1- to -20- crosswise and remove.
- Remove oil pan, if necessary release by applying slight blows with a rubber-headed hammer.

Installing

Assembly is carried out in the reverse order. When installing, observe the following:



WARNING

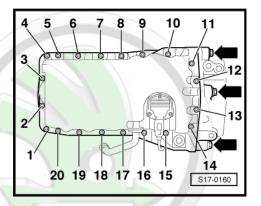
Wear protective gloves and goggles when working with gasket remover and degreasing agent!

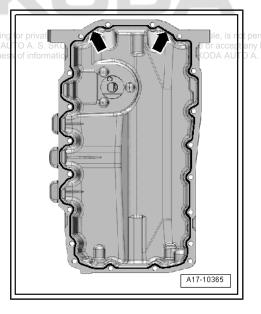
- Remove residual sealant from the sealing surfaces on the cylinder block and on the oil pan with chemical sealant remover.
- Degrease the sealing surfaces.
- Cut off nozzle tube at the front marking (\varnothing of nozzle approx. 3 mm).
- Apply silicone sealant bead -arrow- to the clean sealing surface of the oil pan, as shown.
- Thickness of sealant bead: 2...3 mm.



Note

- The sealant bead must not be thicker than 3 mm otherwise excess sealant may get into the oil pan and clog the strainer in the oil suction pipe.
- Take particular care when applying the sealant bead in the area of the sealing flange on the gearbox side -arrows-.
- The oil pan must be installed within 5 minutes after applying the silicone sealant .





1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

Fit on oil pan immediately and tighten the bolts as follows:

Step	Bolts	Tightening torque
1.	-1- to -20-	crosswise, 5 Nm
2.	-Arrows-	40 Nm
3.	-1- to -20-	crosswise, 13 Nm



Note

- When installing the oil pan with the engine removed, ensure that the oil pan is flush with the cylinder block at the flywheel side.
- Let sealant dry for approx. 30 minutes after installing oil sump. Only then fill with engine oil.
- Fill with engine oil and check the oil level:
- ⇒ Maintenance ; Booklet Octavia II .
- ⇒ Maintenance ; Booklet Superb II .
- ♦ ⇒ Maintenance; Booklet Yeti.

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

Screws for charge air pipes 2.1.2 Summary of components - Charge air cooler, Octavia II, Superb II, Yeti", page 410.

1.9 Removing and installing oil pump

Removing

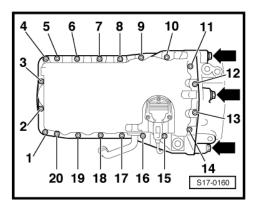
- Removing the oil pan ⇒ "1.8 Removing and installing oil pan", page 220
- Release screws -4- and remove oil suction pipe -3-.
- Release screws -arrows- and remove baffle -2-.
- Unhook the oil pump -1- from the toothed belt and remove it.

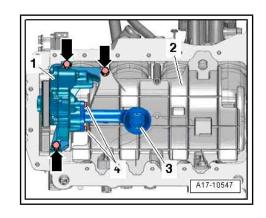
Installing

Installation is carried out in the reverse order. When installing, observe the following:



Renew O-ring.







- Check the dowel sleeves at the oil pump housing -arrows- for centering the oil pump, insert the dowel sleeves if they are not present.
- Check oil pump for smooth operation, to do so turn the belt pulley with a finger.



Note

A sluggish oil pump must be replaced.

Check toothed belt for oil pump.



Note

- Replace damaged toothed belt.
- After long duration the toothed belt can sag, this is not a fault.
- Hook the oil pump with belt pulley into the toothed belt and tighten together with the baffle.
- Installing the oil pan ⇒ "1.8 Removing and installing oil pan", page 220

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

Summary of components "1.1 Summary of components - removing and installing parts of the lubrication system", page 203

1.10 Testing oil pressure and oil pressure switch

Special tools and workshop equipment required purposes, in part or in whole, is not permitted A. S. does not guarantee or accept any liability

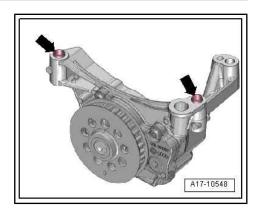
- Oil pressure tester, e.g. -V.A.G 1342-
- Voltage tester, e.g. -V.A.G 1527 B-
- Auxiliary measuring set, , e. g. -V.A.G 1594 C-

Test conditions

- Oil level o.k.
- Coolant temperature approx. 80°C.

Test preparations

Remove oil pressure switch - F1-"1.7 Removing and installing oil pressure switch F1", page <u>219</u> .





- Screw the connection of the oil pressure tester V.A.G 1342into the hole for the oil pressure switch.
- Screw the oil pressure switch -2- into the oil pressure tester.

Testing oil pressure switch

- Connect brown cable -1- of oil pressure tester to earth (-).
- Unclamp the voltage tester with its auxiliary cables out of the measuring tool set on the oil pressure switch and plus (+) terminal on the battery.
- The LED must not light up.

If the LED lights up:

- Replace oil pressure switch.

Diode does not light up:

Start the engine.



Note

Observe the testing equipment and the LED while actuating the starter since the switching point of the oil pressure switch can already be exceeded when starting up.

The LED must come on at an overpressure of 0.03 to 0.06 MPa (0.3 to 0.6 bar).

If the LED does not light up:

units a private of the Skopa Auto A Standard Auto A. S. does not guarantee or accept any liability — Replace oil pressure switch in this document. Copyright by SKODA AUTO A. S.

Testing oil pressure

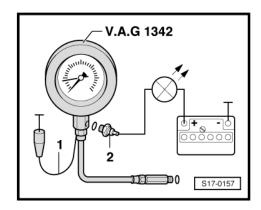
- Start the engine.
- Oil pressure when engine idling: min. 0.08 MPa (0.8 bar).
- Oil pressure at 2000 rpm: min. 0.15 MPa (1.5 bar).

If the specified values are not reached, the oil pump is defective.

- Replace oil pump 1.9 Removing and installing oil pump", page 227
- Oil pressure at higher engine speed: max. 0.5 MPa (5.0 bar).

If the specified value is exceeded, the pressure control valve in the oil pump is defective.

Replace oil pump ⇒ "1.9 Removing and installing oil pump", page 227





19 - Cooling

1 Cooling system

- ⇒ "1.1 Connection diagram for coolant hoses", page 230
- ⇒ "1.2 Draining and filling coolant", page 236
- ⇒ "1.3 Check cooling system for leaks", page 246

1.1 Connection diagram for coolant hoses

- ⇒ "1.1.1 Connection diagram for coolant hoses, Fabia II, Roomster", page 230
- ⇒ "1.1.2 Connection diagram for coolant hoses as of 06.2010, Fabia II, Roomster, Rapid India with engine identification characters CLNA, Rapid NH", page 232
- ⇒ "1.1.3 Connection diagram for coolant hoses, Rapid India with engine identification characters CWXB, CWXC", page 233
- ⇒ "1.1.4 Connection diagram for coolant hoses, Octavia II up to 05.2010", page 234
- ⇒ "1.1.5 Connection diagram for coolant hoses, Octavia II from 06.2010, Superb II, Yeti", page 235

1.1.1 Connection diagram for coolant hoses, Fabia II, Roomster







1 - expansion reservoir

- with cap
- ☐ Check the overpressure valve in the screw cap ⇒ "1.3 Check cooling" system for leaks", page 246

2 - Radiator for exhaust gas recirculation

- □ After replacing, fill with fresh coolant ⇒ "1.2 Draining and filling coolant", page 236
- □ Check for leaks ⇒ "2.4 Test air-tightness of the radiator for exhaust gas recirculation", page 556
- Removing and installing ⇒ "2.2 Removing and installing radiator for exhaust gas recirculation", page 551

3 - Heat exchanger for heating

- with quick coupling
- 4 Cylinder head and cylinder

5 - Engine oil cooler

Removing and installing ⇒ "1.2 Summary of components - oil filter holder", page 205

6 - Coolant recirculation pump

2 - V178-

□ Removing and installing ⇒ "2.5 Electric coolant pump", page 262

7 - Top coolant hose

■ with quick coupling

8 - Radiator

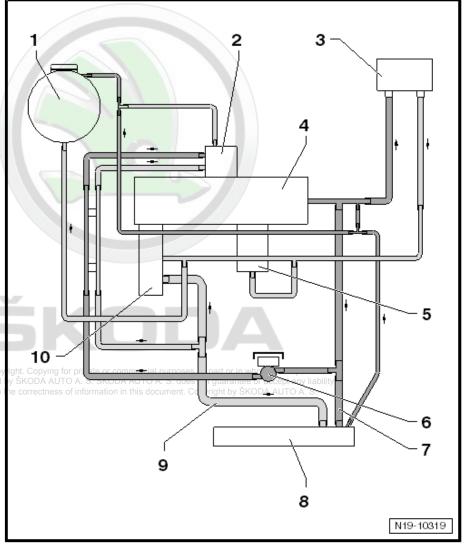
☐ Removing and installing ⇒ "4.4 Removing and installing radiator", page 301

9 - Bottom coolant hose

with quick coupling

10 - Coolant pump/coolant regulator

☐ Removing and installing ⇒ "2.2 Removing and installing coolant pump", page 253





1.1.2 Connection diagram for coolant hoses as of 06.2010, Fabia II, Roomster, Rapid India with engine identification characters CLNA, Rapid NH

1 - Radiator

□ Removing and installing ⇒ "4.4 Removing and installing radiator", page 301

2 - Coolant recirculation pump 2 - V178-

Removing and installing ⇒ "2.5 Electric coolant pump", page 262

3 - 4/2 way valve with coolant regulator

Removing and installing ⇒ "2.3 Removing and installing coolant regulator", page 254

4 - Coolant pump

- □ Removing and installing ⇒ "2.2 Removing and installing coolant pump", page 253
- 5 Coolant temperature sender at radiator outlet - G83-
- 6 expansion reservoir

7 - Screw cap

☐ Check the overpressure valve in the screw cap ⇒ "1.3 Check cooling system for leaks", page 246

8 - Radiator for exhaust gas recirculation

- □ After replacing, fill with fresh coolant
 - ⇒ "1.2 Draining and filling coolant", page 236
- □ Check for leaks ⇒ "2.4 Test air-tightness of the radiator for exhaust gas recirculation", page 556
- Removing and installing ⇒ "2.2 Removing and installing radiator for exhaust gas recirculation", page 551

9 - Cylinder head and cylinder block

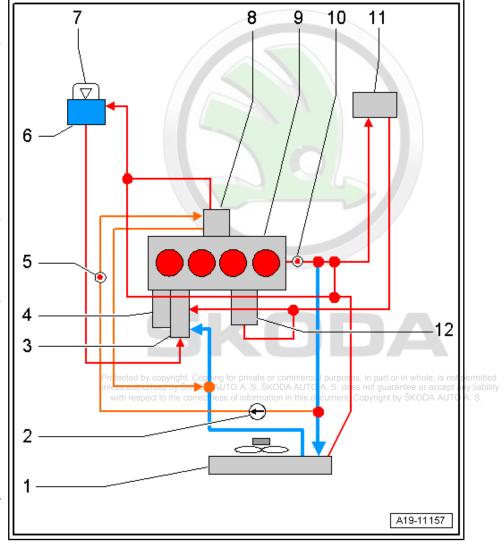
10 - Coolant temperature transmitter - G62-

11 - Heat exchanger for heating

- After replacing, fill with fresh coolant ⇒ "1.2 Draining and filling coolant", page 236
- with quick coupling

12 - Engine oil cooler

- After replacing, fill with fresh coolant ⇒ "1.2 Draining and filling coolant", page 236
- ☐ Removing and installing ⇒ "1.2 Summary of components oil filter holder", page 205





1.1.3 Connection diagram for coolant hoses, Rapid India with engine identification characters CWXB. CWXC

1 - Radiator

□ Removing and installing ⇒ "4.4 Removing and installing radiator", page 301

2 - 4/2 way valve with coolant regulator

Removing and installing ⇒ "2.3 Removing and installing coolant regulator", page 254

3 - Coolant pump

□ Removing and installing <u>"2.2 Removing and in-</u> stalling coolant pump", page 253

4 - expansion reservoir

5 - Screw cap

☐ Check the overpressure valve in the screw cap ⇒ "1.3 Check cooling system for leaks", page 246

6 - Radiator for exhaust gas recirculation

- ☐ After replacing, fill with fresh coolant ⇒ "1.2 Draining and filling coolant", page 236
- Check for leaks ⇒ "2.4 Test air-tightness of the radiator for exhaust gas recirculation", page 556
- □ Removing and installing ⇒ "2.2 Removing and installing radiator for exhaust gas recirculation", page 551

7 - Cylinder head and cylinder block

8 - Heat exchanger for heating

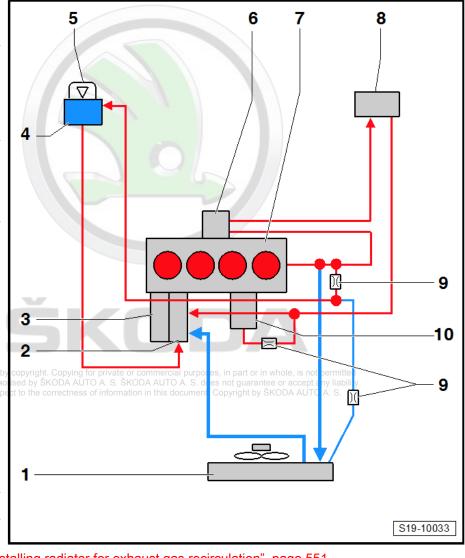
- After replacing, fill with fresh coolant ⇒ "1.2 Draining and filling coolant", page 236
- with quick coupling

9 - Choke

- integrated into the coolant hose, not visible from the outside
- The fitting position is not defined, therefore the coolant hose must not be unclipped with the hose clamp (Risk of damage!)

10 - Engine oil cooler

- ☐ After replacing, fill with fresh coolant ⇒ "1.2 Draining and filling coolant", page 236
- □ Removing and installing ⇒ "1.2 Summary of components oil filter holder", page 205





1.1.4 Connection diagram for coolant hoses, Octavia II up to 05.2010

1 - expansion reservoir

- with cap
- □ Check the overpressure valve in the screw cap ⇒ "1.3 Check cooling system for leaks", page 246

2 - Radiator for exhaust gas recirculation

- After replacing, fill with fresh coolant
 ⇒ "1.2 Draining and filling coolant", page 236
- □ Check for leaks ⇒ "2.4 Test air-tightness of the radiator for exhaust gas recirculation", page 556
- Removing and installing ⇒ "2.2 Removing and installing radiator for exhaust gas recirculation", page 551

3 - to auxiliary heating

- 4 from the auxiliary heating
- 5 Cylinder block

6 - Heat exchanger for heating

 After replacing, fill with fresh coolant
 ⇒ "1.2 Draining and filling coolant", page 236

7 - Throttle valve

- integrated in the coolant hose, not visible from the outside
- ☐ The fitting position is not defined, therefore the coolant hose must not be unclipped with the hose clamp (Risk of damage!)

8 - ATF radiator

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only on vehicles with automatic gearboxect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.

9 - Left coolant hose

10 - Engine oil cooler

- ☐ After replacing, fill with fresh coolant ⇒ "1.2 Draining and filling coolant", page 236
- Removing and installing ⇒ "1.2 Summary of components oil filter holder", page 205

11 - Coolant recirculation pump 2 - V178-

☐ Removing and installing ⇒ "2.5 Electric coolant pump", page 262

12 - Radiator

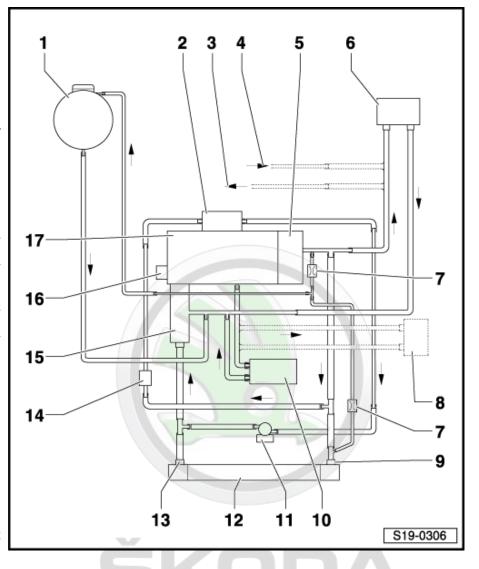
☐ Removing and installing ⇒ "4.4 Removing and installing radiator", page 301

13 - Right coolant hose

14 - Coolant temperature sender at radiator outlet - G83-

15 - Coolant regulator

□ Removing and installing ⇒ "2.3 Removing and installing coolant regulator", page 254



2

3

6

16 - Coolant pump

□ Removing and installing ⇒ "2.2 Removing and installing coolant pump", page 253

17 - Cylinder head

1.1.5 Connection diagram for coolant hoses, Octavia II from 06.2010, Superb II,

1 - expansion reservoir

- with cap
- Check the overpressure valve in the screw cap ⇒ "1.3 Check cooling system for leaks", page 246

2 - Radiator for exhaust gas recirculation

- After replacing, fill with fresh coolant ⇒ "1.2 Draining and filling coolant", page 236
- □ Removing and installing ⇒ "2.2 Removing and installing radiator for exhaust gas recirculation", <u>page 551</u>
- 3 to auxiliary heating
- 4 from the auxiliary heating
- 5 Cylinder block

6 - Heat exchanger for heating

□ After replacing, fill with fresh coolant ⇒ "1.2 Draining and filling coolant", page 236

7 - Throttle valve

- integrated in the coolant hose, not visible from the outside
- The fitting position is not defined, therefore the coolant hose must not be unclipped with the hose clamp (Risk of damage!)

16 7 15 14 13 11 10 12 S19-0318

8 - ATF radiator

only on vehicles with automatic gearbox

9 - Coolant regulator

only on vehicles with automatic gearbox

10 - Engine oil cooler

- ☐ After replacing, fill with fresh coolant ⇒ "1.2 Draining and filling coolant", page 236
- □ Removing and installing ⇒ "1.2 Summary of components oil filter holder", page 205

11 - Coolant recirculation pump 2 - V178-

□ Removing and installing ⇒ "2.5 Electric coolant pump", page 262



12 - Radiator

- □ Removing and installing ⇒ "4.4 Removing and installing radiator", page 301
- 13 Coolant temperature sender at radiator outlet G83-
- 14 4/2 way valve with coolant regulator
 - □ Removing and installing ⇒ "2.3 Removing and installing coolant regulator", page 254
- 15 Coolant pump
 - ☐ Removing and installing ⇒ "2.2 Removing and installing coolant pump", page 253
- 16 Cylinder head

1.2 Draining and filling coolant

⇒ "1.2.1 Drain and fill coolant, Fabia II, Roomster, Rapid India, Rapid NH", page 236

⇒ "1.2.2 Drain and fill coolant, Octavia II, Superb II, Yeti", page 241

1.2.1 Drain and fill coolant, Fabia II, Roomster, Rapid India, Rapid NH

Special tools and workshop equipment required

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- ♦ Catch pan , e.g. -VAS 6208-
- Pliers for spring-type clips
- ♦ Refractometer

Draining



Vote

- ♦ Collect drained coolant in a container for proper disposal.
- ♦ Observe the disposal instructions.



Caution

Dispose of drained coolant. The coolant must not be re-used.



WARNING

Hot steam may escape when the expansion reservoir is opened.

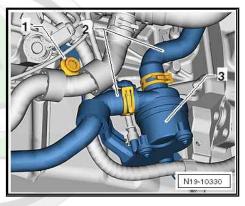
- When the engine is warm, the cooling system is under overpressure.
- Wear safety goggles and safety clothing to avoid eye injuries and scalding.
- ♦ Cover the cap with a cloth and open carefully.
- Open the cap of the coolant expansion reservoir.
- Remove the sound dampening system ⇒ Body Work; Rep. gr. 50 .
- Place a catch pan under the engine.

- Remove coolant hoses -2- from the Recirculation pump 2 -V178- -3- (if present).
- Remove the left charge air hose.



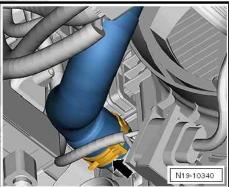
Caution

Shut off the opening of the charge air cooler, e.g. with a clean foam piece, so that no coolant can penetrate.



Remove the coolant hose from the radiator; to do so loosen the retaining clip -arrow-.





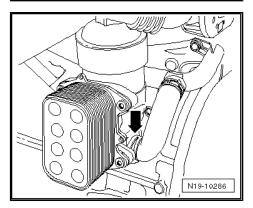
Remove the coolant hose on the engine oil cooler -arrow- and drain residual coolant.

Fill without using filling device

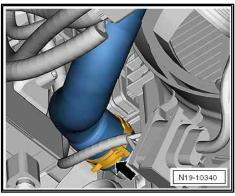


Note

Replace O-rings.

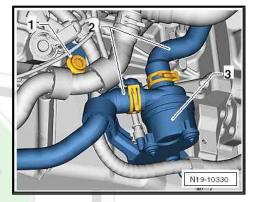


- Connect coolant hose at bottom of radiator -arrow-.
- Install the left charge air hose.





Connect the coolant hoses -2- at the coolant recirculation pump 2 - V178-.



Connect the coolant hose on the engine oil cooler -arrow-.

Select the appropriate coolant additive from the ⇒ ETKA - Electronic catalogue of original parts.

- In a clean reservoir mix water and coolant additive in the specified mixing ratio:
- ⇒ Maintenance ; Booklet Fabia II .
- ⇒ Maintenance : Booklet Roomster .
- ⇒ Maintenance; Booklet Rapid Indie.
- ⇒ Maintenance; Booklet Rapid NH.
- Top up coolant in the expansion reservoir, until the "max." marking" of the coolant level is reached.
- Switch off the heating, and if present, the air conditioning sys-
- Start engine, run for not more than 3 minutes at approx. 2000 rpm and while doing so continuously top up coolant in the expansion reservoir.
- Tighten cap at expansion reservoir.
- Run engine until radiator fan starts.



WARNING

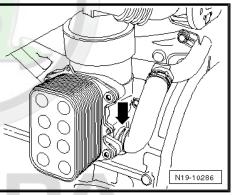
Hot steam may escape when the expansion reservoir is opened.

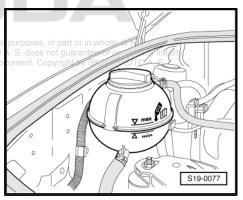
- Wear safety goggles and safety clothing to avoid eye injuries and scalding.
- Cover the cap with a cloth and open carefully.
- Check the coolant level when the expansion tank is closed and top up if necessary when the engine is cooled down.
- When engine is at operating temperature, the coolant level must be at the "max" marking; when engine is cold, it must be between the "min" and "max" markings.

Fill using filling device

Special tools and workshop equipment required

- Adapter V.A.G 1274/8-
- Cooling system charge unit VAS 6096-

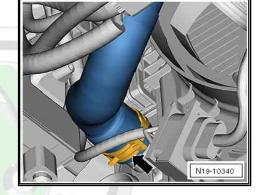




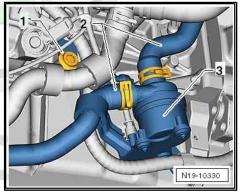


Replace O-rings.

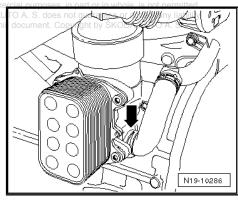
- Connect coolant hose at bottom of radiator -arrow-.
- Install the left charge air hose.



Connect the coolant hoses -2- at the coolant recirculation pump 2 - V178- .



- Connect the coolant hose on the engine oil cooler -arrow-.
- Select the appropriate coolant additive from the ⇒ ETKA Electronic catalogue of original parts.
- Fill up the coolant reservoir -VAS 6096- with at least 8 litres of pre-mixed coolant mixed to the correct ratio:
- ⇒ Maintenance ; Booklet Fabia II .
- ⇒ Maintenance ; Booklet Roomster .
- ⇒ Maintenance ; Booklet Rapid Indie .
- ⇒ Maintenance ; Booklet Rapid NH .



- Screw the adapter for the cooling system testing device -V.A.G 1274/8- into the coolant expansion reservoir.
- Secure cooling system filling device -VAS 6096- to adapter -V.A.G 1274/8- .
- Close valves -A- and -B-, while doing so turn the lever at right angles to the direction of flow.
- Lead the bleeder hose -2- into a small container -3-.



Note

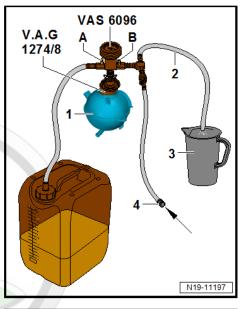
A small amount of coolant, which must be collected, is entrained with the exhaust air.

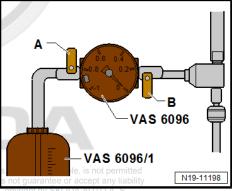
- Connect hose -4- to compressed air.
- Pressure: 0.6 1.0 MPa (6 10 bar)
- Open the valve -B-, while doing so turn the lever in the direction of flow.
- The pressure gauge must enter the green area.
- Also briefly open valve -A- by turning the lever in the flow direction so that the coolant expansion tank -VAS 6096- hose is filled with coolant.
- Close the valve -A- again.
- Leave the valve -B- open a further 2 minutes.
- Additional vacuum is generated in the cooling system by the suction jet pump. The pressure gauge must remain in the green area.
- Close the valve -B-.
- Remove pressure hose.
- The pressure gauge must stay in the green area.

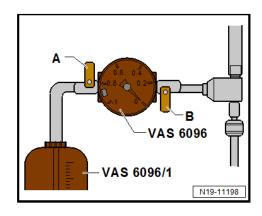


Note

- If the pressure gauge is below the green area, repeat the process.
- ♦ If the vacuum drops, the cooling system must be checked for leak points.
- ♦ Subsequent filling must be done »slowly«.

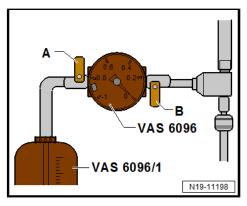


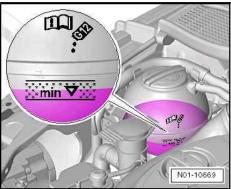






- Open valve -A- slowly.
- Vacuum in the cooling system causes the coolant to be drawn out of the coolant expansion reservoir -VAS 6096- and the cooling system is filled.
- Remove cooling system filling device -VAS 6096- from adapter -V.A.G 1274/8- on the coolant expansion tank.
- Start the engine and set heater to »warm«.
- Keep the engine speed at approximately 2000 rpm for approximately 3 minutes.
- Run engine at idle until the radiator fan V7- starts.
- Check coolant level and add or draw off coolant as necessary. At operating temperature the coolant level must be at the upper mark; when the engine is cold it must be in the middle of the rastered field.





1.2.2 Drain and fill coolant, Octavia II, Superb II, Yeti

Special tools and workshop equipment required

- Catch pan , e.g. -VAS 6208-
- Refractometer
- Pliers for spring-type clips



Note

- Collect drained coolant in a container for proper disposal.
- Observe the disposal instructions.



Caution

Dispose of drained coolant. The coolant must not be re-used.



WARNING

Hot steam may escape when the expansion reservoir is opened.

- When the engine is warm, the cooling system is under overpressure.
- Wear safety goggles and safety clothing to avoid eye injuries and scalding.
- Cover the cap with a cloth and open carefully.

- Open the cap of the coolant expansion reservoir.
- Remove the sound dampening system ⇒ Body Work; Rep.
- Remove right charge air hose.



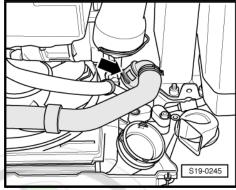
Caution

Shut off the opening of the charge air cooler, e.g. with a clean foam piece, so that no coolant can penetrate.

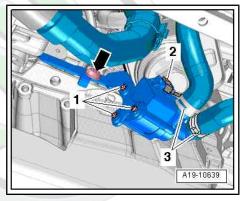
Place a catch pan under the engine.



Remove the right coolant hose from the radiator; to do so pull the retaining clip -arrow-.



Remove the coolant hoses -3- at the coolant recirculation pump 2 - V178-.



Remove the coolant hose on the engine oil cooler -arrow- and drain residual coolant.

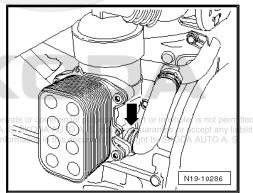
Fill without using filling device



Note

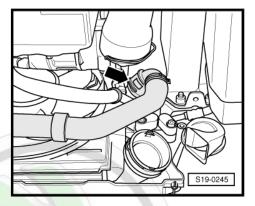
Replace O-rings.



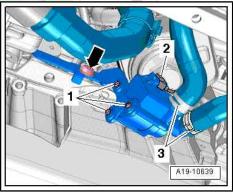




- Connect right coolant hose at radiator -arrow-.



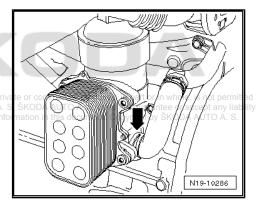
Connect the coolant hoses -3- at the coolant recirculation pump 2 - V178-.



- Connect the coolant hose on the engine oil cooler -arrow-.

Select the appropriate coolant additive from the ⇒ ETKA - Electronic catalogue of original parts.

- In a clean reservoir mix water and coolant additive in the specified mixing ratio:
- ⇒ Maintenance ; Booklet Octavia II .
- ⇒ Maintenance ; Booklet Superb II .
- ⇒ Maintenance ; Booklet Yeti .





- Top up coolant through the neck of the expansion reservoir, until it reaches the max. marking of the coolant level.
- Switch off the heating, and if present, the air conditioning sys-
- Start engine, run for not more than 2 minutes at approx. 1500 rpm and while doing so continuously top up coolant in the expansion reservoir.
- Tighten cap at expansion reservoir.
- Run engine until radiator fan starts.



WARNING

Hot steam or hot coolant may escape when the compensation bottle is opened. Cover the cap with a cloth and open carefully.

- Check the coolant level when the expansion tank is closed and top up if necessary when the engine is cooled down.
- When engine is at operating temperature the coolant level must be at the maximum marking, when engine is cold between the minimum and the maximum markings.

Fill using filling device

Special tools and workshop equipment required

- Adapter V.A.G 1274/8-
- Cooling system charge unit VAS 6096-

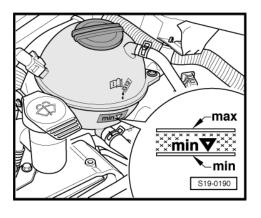


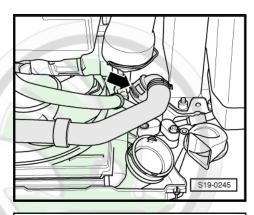
Note

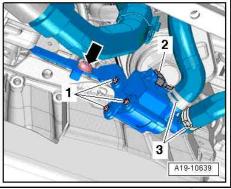
Replace O-rings.

Connect right coolant hose at radiator -arrow-.

Connect the coolant hoses -3- at the coolant recirculation pump 2 - V178-.







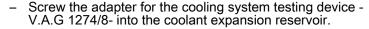
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Connect the coolant hose on the engine oil cooler -arrow-.

Select the appropriate coolant additive from the ⇒ ETKA - Electronic catalogue of original parts.

- Fill up the coolant reservoir -VAS 6096- with at least 8 litres of pre-mixed coolant mixed to the correct ratio:
- ⇒ Maintenance ; Booklet Octavia II .
- ⇒ Maintenance ; Booklet Superb II .
- ⇒ Maintenance : Booklet Yeti .



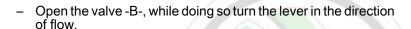
- Secure cooling system filling device -VAS 6096- to adapter -V.A.G 1274/8- .
- Close valves -A- and -B-, while doing so turn the lever at right angles to the direction of flow.
- Lead the bleeder hose -2- into a small container -3-.



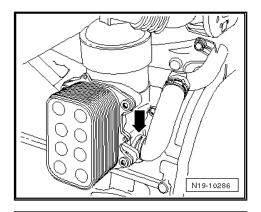
Note

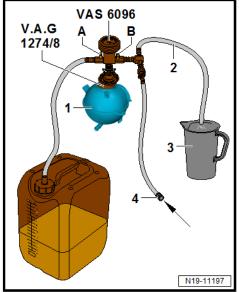
A small amount of coolant, which must be collected, is entrained with the exhaust air.

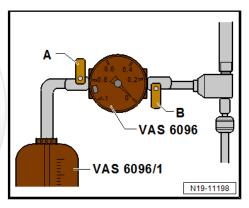
- Connect hose -4- to compressed air.
- Pressure: 0.6 1.0 MPa (6 10 bar)



- The pressure gauge must enter the green area.
- Also briefly open valve -A- by turning the lever in the flow direction so that the coolant expansion tank -VAS 6096- hose is filled with coolant.
- Close the valve -A- again.
- Leave the valve -B- open a further 2 minutes.
- Additional vacuum is generated in the cooling system by the suction jet pump. The pressure gauge must remain in the green area.









Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- Close valve -B-.
- Remove pressure hose.
- The pressure gauge must stay in the green area.

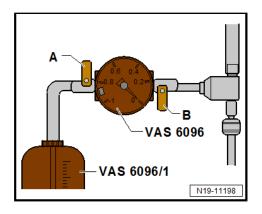


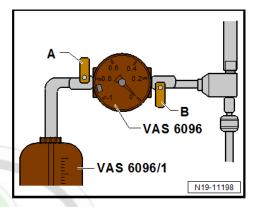
Note

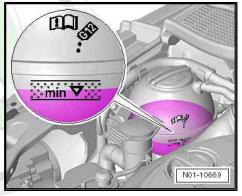
- If the pressure gauge is below the green area, repeat the process.
- If the vacuum drops, the cooling system must be checked for leak points.
- ♦ Subsequent filling must be done »slowly«.
- Open valve -A- slowly.

Vacuum in the cooling system causes the coolant to be drawn out of the coolant expansion reservoir -VAS 6096- and the cooling system is filled.

- Remove cooling system filling device -VAS 6096- from adapter -V.A.G 1274/8- on the coolant expansion tank.
- Start the engine and set heater to »warm«.
- Keep the engine speed at approximately 2000 rpm for approximately 3 minutes.
- Run engine at idle until the radiator fan V7- starts.
- Check coolant level and add or draw off coolant as necessary.
 At operating temperature the coolant level must be at the upper mark; when the engine is cold it must be in the middle of the rastered field.







1.3 Check cooling system for leaks

⇒ "1.3.1 Inspecting coolant system with cooling system testing device V.A.G 1274 for tightness", page 246

⇒ "1.3.2 Inspecting coolant system with cooling system testing device V.A.G 1274 B for tightness", page 248

1.3.1 Inspecting coolant system with cooling system testing device -V.A.G 1274- for tightness

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Special tools and workshop equipment required

- ◆ Cooling system testing device, e.g. -V.A.G 1274-
- ♦ Adapter , e.g. -V.A.G 1274/8-
- Adapter , e.g. -V.A.G 1274/9-

Test condition

Engine must be warm.



Test sequence



WARNING

When the engine is warm, the cooling system is under over-pressure. Danger of scalding due to hot steam and hot coolant.

- Wear protective gloves.
- Wear safety goggles.
- Reduce excess pressure by covering the cap of the coolant expansion tank with a cloth and opening it carefully.
- Open the cap of the coolant expansion reservoir.





Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- Position Cooling system testing device (e.g. -V.A.G 1274-) with adapter (e.g. -V.A.G 1274/8-) on the compensation bot-
- Using the hand pump of the testing device, generate an overpressure of approx. 0.15 MPa (1.5 bar).
- The pressure must not drop below 0.02 MPa (0.2 bar) after 10 minutes.

If the pressure falls below 0.02 MPa (0.2 bar):

Search position of the leak and repair fault.



Note

- A fall in pressure of 0.02 MPa (0.2 bar) within 10 minutes is caused by cooling of the coolant.
- The colder the engine, the lower the pressure loss.
- You may need to repeat the test when the engine is cold.



WARNING

Risk of scalding!

- Before the cooling system testing device -V.A.G 1274- is separated, the existing pressure must absolutely be released.
- For this step, press the pressure relief valve on the cooling system testing device -V.A.G 1274- and hold it pressed until the pressure gauge indicates the value »0«.

Testing the pressure relief valve in the cap

- Screw cap onto tester with adapter (e.g. -V.A.G.1274/971)...
- Build up overpressure using the hand pump on the tester.

Blue filler cap

The pressure relief valve should open at a pressure of 0.14 -0.16 MPa (1.4 - 1.6 bar).

Black filler cap

The pressure relief valve must open at 0.16 - 0.18 MPa (1.6 -1.8 bar).

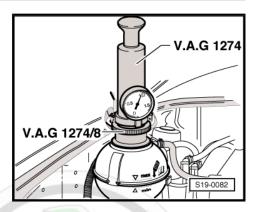
If the pressure relief valve opens too early or too late

Renew cap.

1.3.2 Inspecting coolant system with cooling system testing device -V.A.G 1274 Bfor tightness

Special tools and workshop equipment required

- Cooling system tester V.A.G 1274 B-
- Adapter V.A.G 1274/8-
- Adapter V.A.G 1274/9-





Note

To ensure that the leak-tightness test can be carried out correctly, first carry out the test (self-test) of the cooling system testing device - V.A.G 1274 B-!

Test (self-test) of the cooling system tester - V.A.G 1274 B-

Operate the cooling system testing device - V.A.G 1274 Bseveral times.

- V.A.G 1274 B N20-11243
- Build up the pressure to 0.3 MPa (3.0 bar) at the cooling system testing device.
- Monitor the pressure on the pressure manometer of the cooling system testing device 30 seconds long.

If no pressure is built up or if the pressure drops again:

Cooling system testing device - V.A.G 1274 B- leaks and may not be used.

Check cooling system for leaks

Engine must be warm.

Test sequence

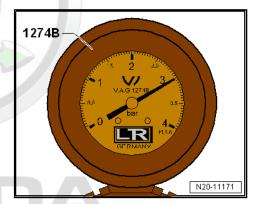


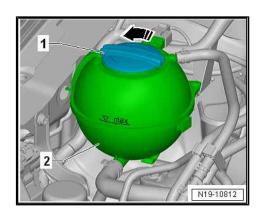
WARNING

When the engine is warm, the cooling system is under overpressure. Danger of scalding due to hot steam and hot coolant.

- ♦ Wear protective gloves.
- Wear safety goggles.
- Reduce excess pressure by covering the cap of the coolant expansion tank with a cloth and opening it carefully.

Open the cap -1- of the coolant expansion reservoir.







Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- Position the cooling system testing device -V.A.G 1274 B- with adapter -V.A.G 1274/8- onto the coolant expansion tank.
- Using the hand pump of the testing device, generate an overpressure of approx. 0.15 MPa (1.5 bar).
- The pressure must not drop below 0.02 MPa (0.2 bar) after 10 minutes.

If the pressure falls below 0.02 MPa (0.2 bar):

Search position of the leak and repair fault.



Note

- A fall in pressure of 0.02 MPa (0.2 bar) within 10 minutes is caused by cooling of the coolant.
- ♦ The colder the engine, the lower the pressure loss.
- ♦ You may need to repeat the test when the engine is cold.



WARNING

Risk of scalding!

- ◆ Before the cooling system testing device -V.A.G 1274 Bis separated from the connecting hose or the connecting piece -V.A.G 1274 B/1-, the existing pressure must absolutely be released.
- ◆ For this step, press the pressure relief valve on the cooling system testing device -V.A.G 1274 B- and hold it pressed until the pressure gauge indicates the value »0«.

Testing the pressure relief valve in the cap

- Screw the screw cap into the adapter for the cooling system testing device -V.A.G 1274/9-.
- Connect the connecting piece -V.A.G 1274 B/1- to the adapter for the cooling system testing device -V.A.G 1274/9-.
- Connect the connecting piece -V.A.G 1274 B/1- via the delivered connecting hose to the cooling system testing device V.A.G 1274 B- .
- Build up overpressure using the hand pump on the tester.

Blue filler cap

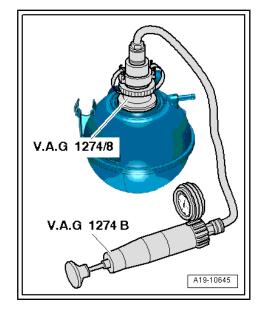
 The pressure relief valve should open at a pressure of 0.14 -0.16 MPa (1.4 - 1.6 bar).

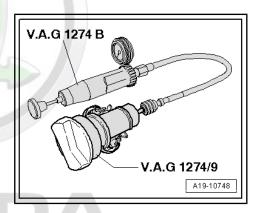
Black filler cap

The pressure relief valve must open at 0.16 - 0.18 MPa (1.6 - 1.8 bar).

If the pressure relief valve opens too early or too late

Renew cap.





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2 Coolant pump and coolant regulator

- ⇒ "2.1 Summary of components coolant pump and coolant thermostat", page 251
- ⇒ "2.2 Removing and installing coolant pump", page 253
- ⇒ "2.3 Removing and installing coolant regulator", page 254
- ⇒ "2.4 Testing the coolant regulator", page 262
- ⇒ "2.5 Electric coolant pump", page 262
- ⇒ "2.6 Removing and installing coolant temperature sender ", page 266
- 2.1 Summary of components - coolant pump and coolant thermostat
- ⇒ "2.1.1 Summary of components coolant pump and coolant regulator up to 05.2010, Fabia II, Roomster, Octavia II", page 251
- ⇒ "2.1.2 Summary of components Coolant pump and 4/2-way valve with coolant regulator as of 06.2010", page 252
- 2.1.1 Summary of components - coolant pump and coolant regulator up to 05.2010, Fabia II, Roomster, Octavia II



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.





1 - Coolant pump

□ Removing and installing ⇒ "2.2 Removing and installing coolant pump", page 253

2 - Screw

□ 15 Nm

3 - O-ring

☐ Replace after disassembly

4 - Coolant regulator

- □ Removing and installing ⇒ "2.3 Removing and installing coolant regulator", page 254
- □ Check ⇒ "2.4 Testing the coolant regulator", page 262

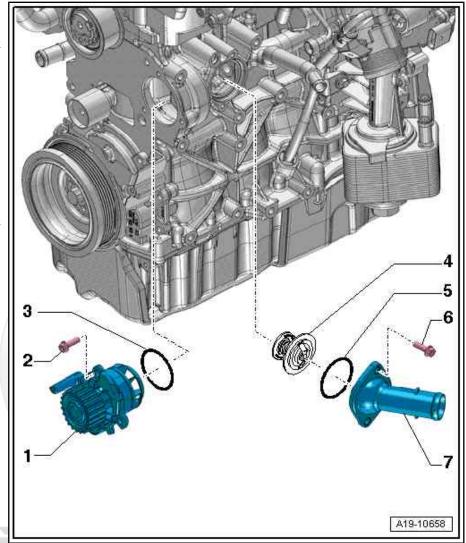
5 - O-ring

☐ Replace after disassembly

6 - Screw

□ 13 Nm

7 - Connection fitting



Summary of components - Coolant 2.1.2 pump and 4/2-way valve with coolantses, in part or in whole, is not permitted regulator as of 06:2010 information in this document. Copyright by SKODA AUTO A. S.



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

1 - Coolant pump

□ Removing and installing ⇒ "2.2 Removing and installing coolant pump", page 253

2 - Screw

□ 15 Nm

3 - O-ring

☐ Replace after disassembly

4 - O-ring

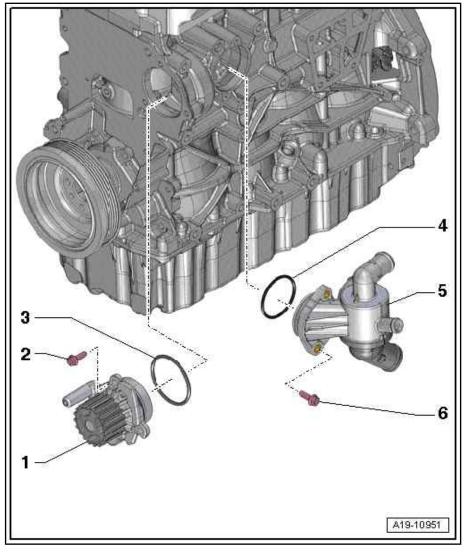
☐ Replace after disassembly

5 - 4/2 way valve with coolant regulator

- The coolant regulator is integrated in the 4/2 way valve and cannot be replaced separately
- □ Removing and installing ⇒ "2.3 Removing and installing coolant regulator", page 254
- ☐ Check ⇒ "2.4 Testing the coolant regulator", page 262

6 - Screw

□ 15 Nm



2.2 Removing and installing coolant pump

Removing

- Drain coolant ⇒ "1.2 Draining and filling coolant", page 236.
- Remove toothed belt ⇒ "1.7 Removing and installing toothed belt", page 96.

Vehicles fitted with auxiliary heating

Remove the right coolant pipes ⇒ "3.2.6 Removing and installing right coolant pipe, Octavia II, Superb II, Yeti, vehicles with auxiliary heating", page 287.

Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

Continued for all vehicles

- Release screws -1- and remove coolant pump -2-.
- Remove O-ring -3-.

Installing

Assembly is carried out in the reverse order. When installing, observe the following:

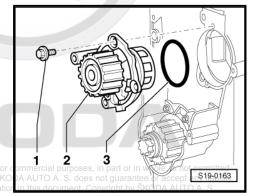


Note

Renew O-ring.

- Clean sealing surface for O-ring or smoothen.
- Moisten the new O-ring -3- with coolant.
- Attach the coolant pump -2-.
- · Fitting position: Plug in housing points down.
- Tighten the screws -1- of the coolant pump.
- Install the toothed belt
 ⇒ "1.7 Removing and installing toothed belt", page 96
- Top up coolant
 ⇒ "1.2 Draining and filling coolant", page 236 .

Tightening torques - summaries of components sed by SKODA AUTO A



S19-0163



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

◆ Coolant pump ⇒ "2.1 Summary of components - coolant pump and coolant thermostat", page 251.

2.3 Removing and installing coolant regulator

⇒ "2.3.1 Removing and installing coolant regulator up to 05.2010, Fabia II, Roomster", page 254

⇒ "2.3.2 Removing and installing coolant regulator up to 05.2010, Octavia II", page 256

⇒ "2.3.3 Removing and installing 4/2-way-valve with thermostat from 06/2010", page 259

2.3.1 Removing and installing coolant regulator up to 05.2010, Fabia II, Roomster

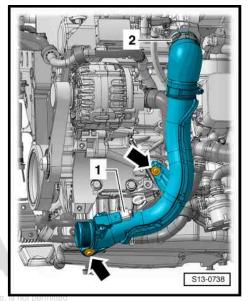
Special tools and workshop equipment required

- ♦ Flexible-head wrench SW 10 3185-
- Socket T10058-
- ◆ Catch pan , e.g. -VAS 6208-
- ♦ Pliers for spring-type clips



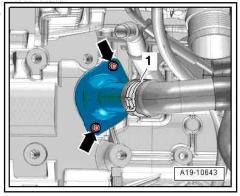
Removing

- Drain coolant ⇒ "1.2 Draining and filling coolant", page 236.
- Unscrew screws -arrows-.
- Loosen hose clamp -2-.
- Disconnect the plug -1- at the charge pressure sender G31with intake air temperature sender - G42- and remove the right charge air pipe.





- Remove the coolant hose from the connection fitting, to do so slacken the hose clamp -1-.
- Slacken the screws -arrows- using the flexible-head wrench -3185-, screw out with socket insert - T10058 - and remove the connection fitting.



- Turn the coolant thermostat -2- approx. 15° clockwise -arrow- and remove it from the connection fitting.
- Remove O-ring -1-.

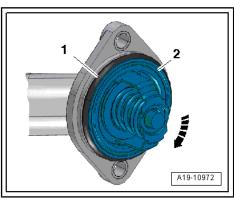
Installing

Assembly is carried out in the reverse order. When installing, observe the following:



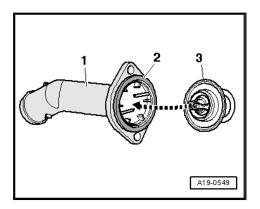
Note

- Renew O-ring.
- Hose connections as well as charge air pipes and charge air hoses must be free of oil and grease before being installed.
- Secure all hose connections with specified clamps ⇒ ETKA -Electronic Catalogue of Original Parts .
- Clean sealing surface for O-ring or smoothen.
- Moisten O-ring -2- with coolant additive.

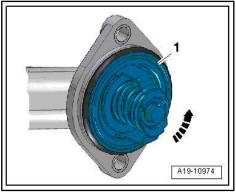




- Insert the coolant regulator -3- with the O-ring -2-.



 Screw in coolant thermostat -1- anti-clockwise as far as the stop -arrow-.



- Fit connection fitting onto cylinder block and tighten screws -arrows-.
- Top up coolant
 ⇒ "1.2 Draining and filling coolant", page 236.

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- Screws for charge air pipes
 ⇒ "2.1.1 Summary of components Charge air cooler, Fabia II, Roomster, Rapid India, Rapid NH", page 409
- Connection fitting
 ⇒ "2.1.1 Summary of components coolant pump and coolant regulator up to 05.2010, Fabia II, Roomster, Octavia II", page 251

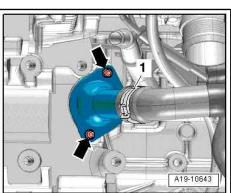
2.3.2 Removing and installing coolant regulator up to 05.2010, Octavia II

Special tools and workshop equipment required

- ◆ Flexible-head wrench SW 10 3185-
- Socket T10058-
- ◆ Catch pan , e.g. -VAS 6208-
- Pliers for spring-type clips
- ◆ Radiator protection mat VAS 531003-

Removing

Drain coolant ⇒ "1.2 Draining and filling coolant", page 236.

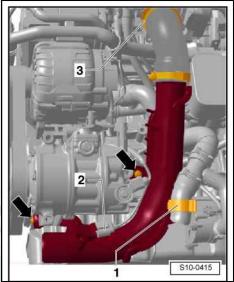




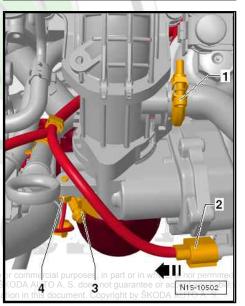
- Remove fan shroud with radiator fans ⇒ "4.3 Removing and installing fan shroud with radiator fan ", page 298 .
- Fit radiator protection mat VAS 531003- to vehicle, as shown.



- Unscrew screws -arrows-.
- Detach coolant hose -1-.
- Loosen hose clamp -3-.
- Disconnect the plug -2- at the charge pressure sender G31-with intake air temperature sender G42- and remove the right charge air pipe.

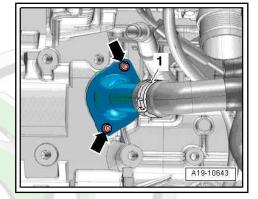


- Disconnect the plug -2- from the throttle valve control unit -
- Unscrew the top fixing screw of the guide pipe for the oil dipstick -4-.
- Remove throttle valve control unit J338- and take off.



Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- Remove the coolant hose from the connection fitting, to do so slacken the hose clamp -1-.
- Slacken the screws -arrows- using the hinged wrench SW 10 - 3185-, screw out with socket insert - T10058- and remove the connection fitting.



- Turn the coolant thermostat -2- approx. 15° clockwise -arrow- and remove it from the connection fitting.
- Remove O-ring -1-.

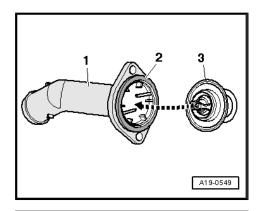
Installing

Assembly is carried out in the reverse order. When installing, observe the following:



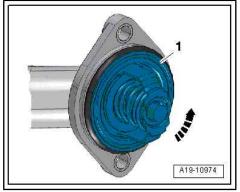
Note

- Renew O-ring.
- Hose connections as well as charge air pipes and charge air hoses must be free of oil and grease before being installed.
- Secure all hose connections with specified clamps ⇒ ETKA -Electronic Catalogue of Original Parts .
- Clean sealing surface for O-ring or smoothen.
- Moisten O-ring -2- with coolant additive.
- Insert the coolant regulator -3- with the O-ring -2-.



A19-10972

Screw in coolant thermostat -1- anti-clockwise as far as the stop -arrow-.







- Fit connection fitting onto cylinder block and tighten screws -arrows-.
- Top up coolant "1.2 Draining and filling coolant", page 236.

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- Summary of components 2.1.2 Summary of components - Charge air cooler, Octavia II, Superb II, Yeti", page 410 .
- Connection fitting ⇒ "2.1.1 Summary of components - coolant pump and coolant regulator up to 05.2010, Fabia II, Roomster, Octavia II", page <u> 251</u> .
- Summary of components ⇒ "3.1 Summary of components - intake manifold", page 465

2.3.3 Removing and installing 4/2-way-valve with thermostat from 06/2010

Special tools and workshop equipment required

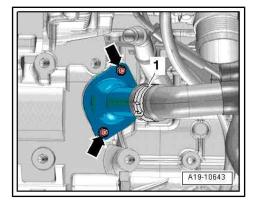
- ◆ Catch pan, e.g. -VAS 6208-
- Pliers for spring-type clips

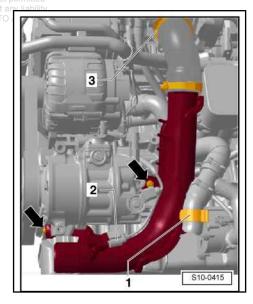
Removing

- Drain coolant ⇒ "1.2 Draining and filling coolant", page 236.
- Remove the generator ⇒ Electrical System; Rep. gr. 27.
- Unscrew screws -arrows-.

Vehicles Octavia, Superb II, Yeti

- Detach coolant hose -1-.
- Loosen hose clamp -3-.
- Disconnect the plug -2- at the charge pressure sender G31with intake air temperature sender - G42- and remove the right charge air pipe.

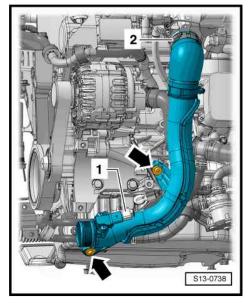






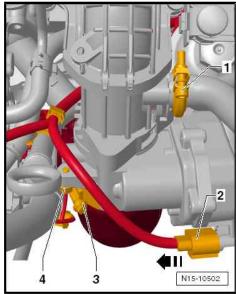
Vehicles Fabia II, Roomster, Rapid India, Rapid NH

- Loosen hose clamp -2-.
- Disconnect the plug -1- at the charge pressure sender G31with intake air temperature sender - G42- and remove the right charge air pipe.



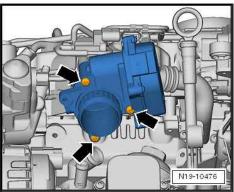
Continued for all vehicles

- Disconnect the plug -2- from the throttle valve control unit -J338- .
- Unscrew the top fixing screw of the guide pipe for the oil dipstick -4-.



Remove screws -screws- and remove the throttle flap control unit - J338- .







- Remove the coolant hoses, to do so slacken the hose clamps -A-, -B- and -D-.
- Unscrew screws -3-.
- Remove the 4/2 way valve with coolant regulator from the cylinder block and then detach it from the front coolant pipe.

Installing

Assembly is carried out in the reverse order. When installing, observe the following:



Note

- Renew O-ring.
- Hose connections as well as charge air pipes and charge air hoses must be free of oil and grease before being installed.
- Observe the instructions for installing the charge air hoses and tightening torques of the screw clamps 3 Hose connections with screw clamps", page 414.
- Secure all hose connections with specified clamps ⇒ ETKA -Electronic Catalogue of Original Parts .
- Moisten new O-ring -1- with coolant.
- First of all position the 4/2 way valve with coolant regulator with the connection fitting -C- on the front coolant pipe and subsequently press it into the cylinder block.

Screw in fixing screws 3 for 4/2 way valve with coolant regulator

- Connect the coolant hoses to the connection fittings -A-, -Band -D-.
- Top up coolant 1.2 Draining and filling coolant", page 236.

Tightening torques - summaries of components

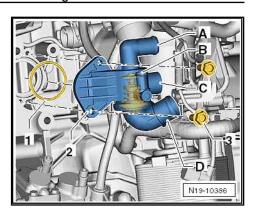


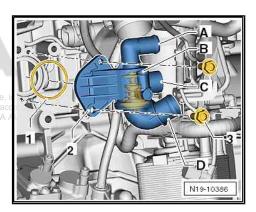
Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

Tightening torques

- ♦ 4/2 way valve ⇒ "2.1.2 Summary of components - Coolant pump and 4/2-way valve with coolant regulator as of 06.2010", page 252
- Summary of components ⇒ "2.1 Summary of components - charge air cooler", page 409.
- Guide tube for oil dipstick ⇒ "1.1 Summary of components - removing and installing parts of the lubrication system", page 203.
- Throttle valve control unit J338-⇒ "3.1 Summary of components - intake manifold", page 465.







2.4 Testing the coolant regulator

Vehicles with coolant thermostat

- Heat up the removed coolant regulator in a water bath.

Vehicles with 4/2 way valve

Heat up the removed 4/2 way valve with coolant regulator in a water bath.

Start of opening	End of opening	Opening stroke
approx. 87 °C	approximately 102 °C 1)	min. 7 mm
◆ 1) Cannot be tes	sted.	

2.5 Electric coolant pump

- ⇒ "2.5.1 Removing and installing recirculation pump 2 V178 , Fabia II, Roomster, Rapid India, Rapid NH", page 262
- ⇒ "2.5.2 Remove and install recirculation pump 2 V178 , Octavia II, Superb II, Yeti", page 264

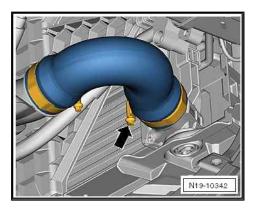
2.5.1 Removing and installing recirculation pump 2 - V178-, Fabia II, Roomster, Rapid India, Rapid NH

Special tools and workshop equipment required

- ♦ Hose clamps up to Ø 25 mm MP7-602 (3094)-
- ♦ Pliers for spring-type clips

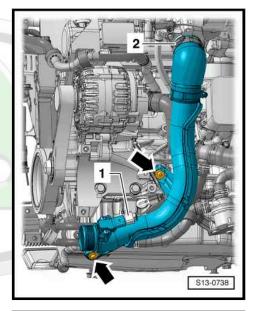
Removing

- Remove the sound dampening system ⇒ Body Work; Rep. gr. 50.
- Remove right charge air hose.





- Unscrew screws -arrows-.
- Disconnect plug -1- at charge pressure sender G31- with intake air temperature sender - G42- .
- Slacken the hose clamp -2- and push the charge air pipe to the right.





Note

In order to collect flowing out coolant, place a cloth below the coolant recirculation pump 2 - V178 Te 37 copyright. Copyright

- Pinch off coolant hoses -2- with hose clamps up to 25 mm -MP7-602 (3094)- and remove.
- Disconnect plug connection -5-.
- If necessary, loosen the cable guide at the pump holder.
- Release screws -4- and remove coolant recirculation pump 2 - V178- -3-.

Installing

Assembly is carried out in the reverse order. When installing, observe the following:



Note

- Hose connections as well as charge air pipes and charge air hoses must be free of oil and grease before being installed.
- Secure all hose connections with corresponding hose clips.
- Inspect coolant level, top up with coolant if necessary ⇒ "1.2 Draining and filling coolant", page 236.

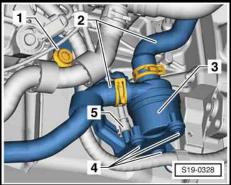
Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- Screws for charge air pipes 2.1.1 Summary of components - Charge air cooler, Fabia II, Roomster, Rapid India, Rapid NH", page 409.
- Coolant recirculation pump 2 V178-⇒ "3.1 Summary of components - coolant pipe", page 272.





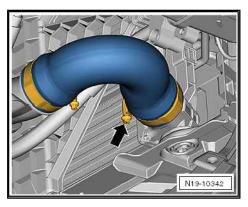
2.5.2 Remove and install recirculation pump 2 - V178-, Octavia II, Superb II, Yeti

Special tools and workshop equipment required

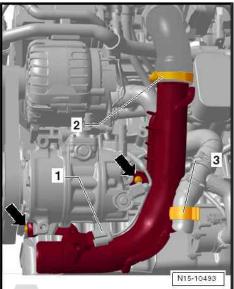
- ♦ Hose clamps up to Ø 25 mm MP7-602 (3094)-
- Pliers for spring-type clips

Removing

- Remove the sound dampening system ⇒ Body Work; Rep. gr. 50.
- Remove right charge air hose.



- Unscrew screws -arrows-.
- Detach coolant hose -3-.
- Disconnect plug -1- at charge pressure sender G31- with intake air temperature sender G42- .
- Slacken the hose clamp -2- and push the charge air pipe to the right.







Note

In order to collect flowing out coolant, place a cloth below the coolant recirculation pump 2 - V178- .

- Pinch off coolant hoses with hose clamps up to 25 mm -MP7-602 (3094)- and remove, to do so slacken spring strap clamps -3-.
- Disconnect plug connection -2-.
- Release screws -1- and remove coolant recirculation pump 2 - V178- .

A19-10639

Installing

Assembly is carried out in the reverse order. When installing, observe the following:



Note

- ♦ Hose connections as well as charge air pipes and charge air hoses must be free of oil and grease before being installed.
- Observe the assembly instruction for hose connections with screw clamps *⇒ "2.3 Hose connections with screw clamps", page 414* .
- Inspect coolant level, top up with coolant if necessary 1.2 Draining and filling coolant", page 236.

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as of information in this document. Copyright by SKODA AUTO A. S. well as replacement components after removal.

- Screws for charge air pipes <u> "2.1.2 Summary of components - Charge air cooler, Octavia</u> II, Superb II, Yeti", page 410
- Coolant recirculation pump 2 V178-⇒ "3.1 Summary of components - coolant pipe", page 272 .



2.6 Removing and installing coolant temperature sender

⇒ "2.6.1 Removing and installing coolant temperature sender G62, Fabia II, Roomster, Rapid India, Rapid NH", page 266

⇒ "2.6.2 Removing and installing coolant temperature sender G62 , Octavia II, Superb II, Yeti", page 267

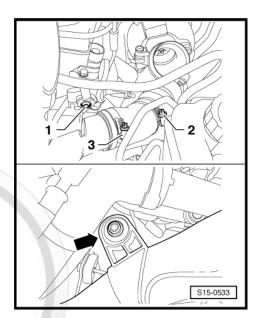
⇒ "2.6.3 Removing and installing coolant temperature sender at radiator outlet G83, Fabia II, Roomster, Rapid India, Rapid NH", page 269

⇒ "2.6.4 Removing and installing coolant temperature sender at radiator outlet G83 , Octavia II, Superb II, Yeti", page 270

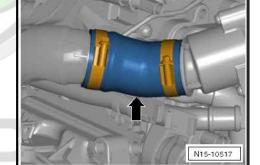
2.6.1 Removing and installing coolant temperature sender - G62-, Fabia II, Roomster, Rapid India, Rapid NH

Removing

- · Engine cold
- Briefly open the cap for the coolant expansion reservoir in order to remove the remaining pressure in the coolant system.
- Remove air filter
 ⇒ "3.5 Removing and installing air filter", page 479
- Remove the sound dampening system ⇒ Body Work; Rep. gr. 50.
- Release the fixing screw -1- from the charge air pipe (if present), slacken the clamp -2- or -3-.
- Release fixing screw -arrow- from charge air pipe.



- Detach the connecting hose -arrow- as far as possible from the vibration damper.
- Push the left charge air pipe to the left.



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Disconnect plug -4- at the coolant temperature sender - G62-.



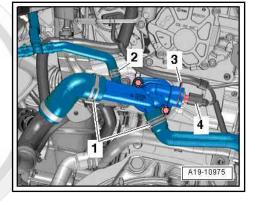
Note

In order to collect flowing out coolant, place a cloth below the connection fitting.

Pull of retaining clip -3-, pull coolant temperature sender - G62from the connection fitting.

Installing

Installation is carried out in the reverse order. Pay attention to the following:



Note

- Renew O-ring.
- To prevent losing too much coolant, insert the new coolant temperature sender - G62- into the cooling pipe right away.
- Inspect coolant level top up with coolant if necessaryal purposes, in part or in whole, is not permitted 1.2 Draining and filling coolant page 236 KODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by SKODA AUTO A. S.

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- Summary of components ⇒ "2.1.1 Summary of components - Charge air cooler, Fabia II, Roomster, Rapid India, Rapid NH", page 409
- ♦ Coolant temperature sender G62-⇒ "3.1.1 Summary of components - Coolant pipes, Fabia II, Roomster, Rapid India, Rapid NH", page 272

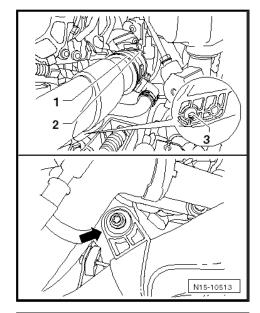
2.6.2 Removing and installing coolant temperature sender - G62-, Octavia II, Superb II. Yeti

Removing

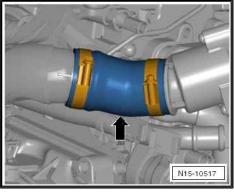
- Engine cold
- Briefly open the cap for the coolant expansion reservoir in order to remove the remaining pressure in the coolant system.
- Remove air filter housing ⇒ "3.5 Removing and installing air filter", page 479.
- Remove the sound dampening system ⇒ Body Work; Rep. gr. 50.

Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- Release the fixing screw -3- from the charge air pipe, slacken the clamp -1- or -2-.
- Release fixing screw -arrow- of charge air pipe.



- Detach the connecting hose -arrow- as far as possible from the pulsation dampener.
- Push the left charge air pipe as well as the left coolant pipe to the left.









Disconnect plug -2- at the coolant temperature sender - G62-.



Note

In order to collect flowing out coolant, place a cloth below the connection fitting.

Pull of retaining clip -1-, pull coolant temperature sender - G62from the connection fitting.

Installing

Installation is carried out in the reverse order. Pay attention to the following:



Note

- Renew O-ring.
- To prevent losing too much coolant, insert the new coolant temperature sender - G62- into the cooling pipe right away.
- Inspect coolant level, top up with coolant if necessary "1.2 Draining and filling coolant", page 236.

Tightening torques - summaries of components



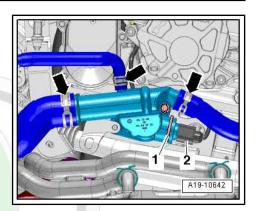
Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- Summary of components <u> 2.1.2 Summary of components - Charge air cooler, Octavia</u> <u>II, Superb II, Yeti", page 410</u> .
- Coolant temperature sender G62-"3.1.2 Summary of components - Coolant pipes, Octavia II, Superb II, Yeti", page 273 .
- 2.6.3 Removing and installing coolant temperature sender at radiator outlet - G83-, Fabia II, Roomster, Rapid India, Rapid NH

Removing

- Engine cold
- Briefly open the cap for the coolant expansion reservoir in order to remove the remaining pressure in the coolant system.
- Remove the sound dampening system ⇒ Body Work; Rep. gr. 50.





Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

 Disconnect plug -2- at the coolant temperature sender at radiator outlet - G83- .



Note

In order to collect flowing out coolant, place a cloth below the connection fitting.

 Pull of retaining clip -1-, pull coolant temperature sender at radiator outlet - G83- from the connection fitting.

Installing

Installation is carried out in the reverse order. Pay attention to the following:



Note

- ♦ Renew O-ring.
- To prevent losing too much coolant, insert the new coolant temperature sender at radiator outlet - G83- into the cooling pipe right away.
- Inspect coolant level, top up with coolant if necessary
 ⇒ "1.2 Draining and filling coolant", page 236

2.6.4 Removing and installing coolant temperature sender at radiator outlet - G83-, Octavia II, Superb II, Yeti

Removing

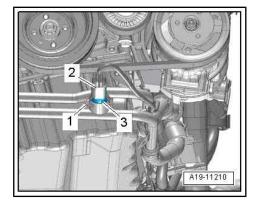
- · Engine cold
- Briefly open the cap for the coolant expansion reservoir in order to remove the remaining pressure in the coolant system.
- Remove engine cover
 ⇒ "1.1 Removing and installing engine trim panel", page 11.



Note

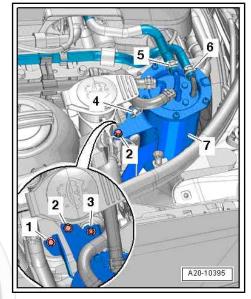
- In order to collect flowing out coolant, place a cloth below the connection fitting.
- To prevent losing too much coolant, insert the new coolant temperature sender at radiator outlet - G83- into the cooling pipe right away.
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- Release screw -1-.
- Release screw -2- and nut -3-.
- Remove bracket -4- from the fuel filter, place the fuel filter -7- to the side with the fuel hoses -5- and -6- connected.



- Disconnect plug -2- from the coolant temperature sender at radiator outlet - G83- .
- Pull of retaining clip -1-, pull coolant temperature sender at radiator outlet - G83- from the connection fitting.

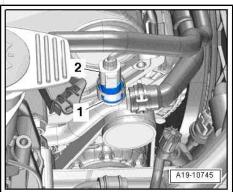
Installing

Installation is carried out in the reverse order. Pay attention to the following:



Note

- Renew O-ring.
- To prevent losing too much coolant, insert the new coolant temperature sender at radiator outlet - G83- into the cooling pipe right away.sted by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.
- Inspect coolant level, top up with coolant if necessary ⇒ "1.2 Draining and filling coolant", page 236





3 Coolant pipes

- ⇒ "3.1 Summary of components coolant pipe", page 272
- ⇒ "3.2 Removing and installing coolant pipes", page 275

3.1 Summary of components - coolant pipe

- ⇒ "3.1.1 Summary of components Coolant pipes, Fabia II, Roomster, Rapid India, Rapid NH", page 272
- ⇒ "3.1.2 Summary of components Coolant pipes, Octavia II, Superb II, Yeti", page 273
- 3.1.1 Summary of components - Coolant pipes, Fabia II, Roomster, Rapid India, Rapid NH



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

1 - Screw

□ 5 Nm

2 - Bushing

□ is not supplied individu-

3 - Grommet

☐ is not supplied individu-

4 - Mounting bracket

for coolant recirculation pump 2 -V178-

5 - Screw

□ 40 Nm

6 - Front coolant pipe

□ Removing and installing 3.2 Removing and installing coolant pipes", page 275

7 - O-ring

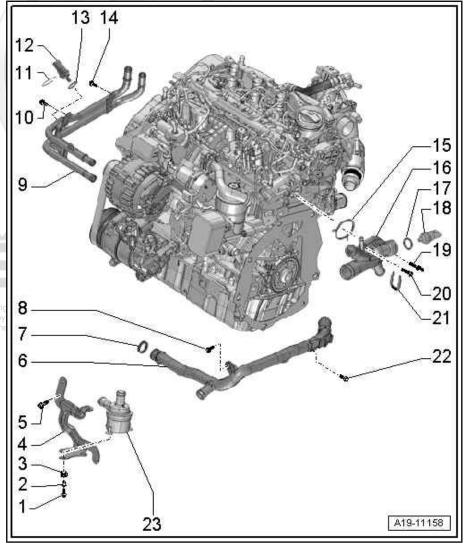
□ Replace after disassembly

8 - Screw

□ 9 Nm

9 - Right coolant pipes

- to radiator for exhaust gas recirculation
- □ Removing and installing ⇒ "3.2 Removing and installing coolant pipes", page 275



10 - Screw	
□ 9 Nm	
11 - Retaining clip	
Check for secure seating	
12 - Coolant temperature sender at radiat □ Removing and installing ⇒ "2.6 Rem	tor outlet - G83- moving and installing coolant temperature sender ", page 266
13 - O-ring	
☐ Replace after disassembly	
14 - Screw	
□ 9 Nm	
15 - Seal	
 Replace after disassembly 	
16 - Connection fitting	
for cylinder head	
17 - O-ring	
Replace after disassembly	
18 - Coolant temperature sender -G62-	
□ Removing and installing ⇒ "2.6 Rer	moving and installing coolant temperature sender ", page 266
19 - Screw	
□ 9 Nm	Ž
20 - Screw	SKODA
□ 9 Nm	
21 - Retaining clip	Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not perr
Check for secure seating	unless authorised by ŠKODÁ AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any li with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S
22 - Screw	
☐ 40 Nm	
23 - Coolant recirculation pump 2 - V178-	
□ Removing and installing ⇒ "2.5 Ele	ctric coolant pump", page 262

Summary of components - Coolant 3.1.2 pipes, Octavia II, Superb II, Yeti

□ not present on vehicles with engine identification characters CWXB, CWXC



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.



1 - Tensioning sleeve

not available separately

2 - Bushing

not available separately

3 - Screw

□ 3 Nm

4 - Screw

□ 40 Nm

5 - Mounting bracket

☐ for coolant recirculation pump 2 -V178-

6 - Front coolant pipe

□ Removing and installing ⇒ "3.2 Removing and installing coolant pipes", page 275

7 - O-ring

☐ Replace after disassembly

8 - Coolant pipe - right

□ Removing and installing ⇒ "3.2 Removing and installing coolant pipes", page 275

9 - O-ring

☐ Replace after disassembly

10 - Coolant temperature sender at radiator outlet - G83-

Removing and installing⇒ "2.6 Removing and in-

otec stalling coolant temperature sender page 266 whole, is not permitted

- 11 Retaining clip ectness of information in this document. Copyright by ŠKODA AUTO A. S.
 - check correct fitting

12 - Screw

□ 9 Nm

13 - Screw

□ 9 Nm

14 - Screw

□ 9 Nm

15 - Coolant line

16 - Screw

□ 9 Nm

17 - Seal

Replace after disassembly

18 - Connection fitting

for cylinder head

19 - Screw

□ 9 Nm

20 - Retaining clip check correct fitting
21 - Coolant temperature sender -G62- Removing and installing ⇒ "2.6 Removing and installing coolant temperature sender ", page 266
22 - O-ring Replace after disassembly
23 - Screw 9 Nm
24 - Screw □ 9 Nm
25 - Left coolant pipe
26 - Screw 9 Nm
27 - Screw 40 Nm
28 - Screw 13 Nm
29 - Coolant recirculation pump 2 - V178-
☐ Removing and installing ⇒ "2.5 Electric coolant pump", page 262

3.2 Removing and installing coolant pipes

- ⇒ "3.2.1 Removing and installing front coolant pipe, Fabia II, Roomster, Rapid India, Rapid NH", page 275
- ⇒ "3.2.2 Removing and installing coolant pipe, Octavia II, Superb II, Yeti, vehicles with thermostat", page 278
- ⇒ "3.2.3 Removing and installing coolant pipe, Octavia II, Superb II, Yeti, vehicles with 4/2 way valve", page 281
- ⇒ "3.2.4 Removing and installing right coolant pipes, Fabia II, Roomster, Rapid India, Rapid NH", page 286
- ⇒ "3.2.5 Removing and installing the right coolant pipe, Octavia II, Superb II, Yeti", page 286
- ⇒ "3.2.6 Removing and installing right coolant pipe, Octavia II, Superb II, Yeti, vehicles with auxiliary heating", page 287
- 3.2.1 Removing and installing front coolant pipe, Fabia II, Roomster, Rapid India, Rapid NH

Special tools and workshop equipment required

- ♦ Lever T10468-
- ♦ Hose binding claw VAS 6362-

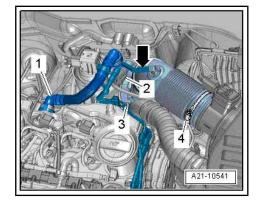
Removing

- Drain coolant 5 61.2 Draining and filling coolant page 236 in whole, is not permitted unless authorised by SKODA AUTO A. S. S
- Remove air filter ⇒ "3.5 Removing and installing air filter", page 479.
- Remove oil filter holder with engine oil cooler ⇒ "1.5 Removing and installing the oil filter holder with the engine oil cooler", page 211.

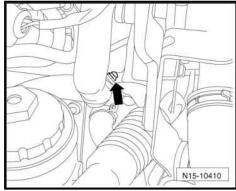


Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

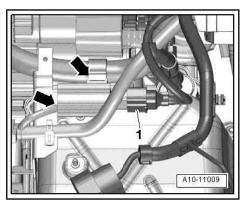
- Variant for cold countries: disconnect electrical plug connection -2-.
- Remove pipe -1- for the crankcase ventilation, while pressing the release buttons.
- Detach vacuum hose -arrow-.
- Release screw -3-, swivel air guide pipe with inlet connection towards the rear and detach from exhaust gas turbocharger.



Unclip the wiring loom from the holder -arrow-.

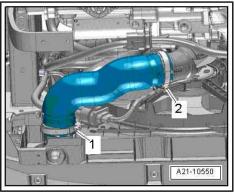


Place aside the wiring looms -arrows- and the electrical plug connection -1- at the bracket.



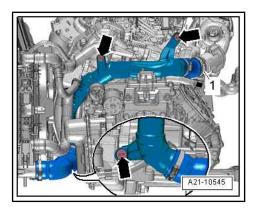
Remove the air guide hose, while loosening the hose clamps -1- and -2-.



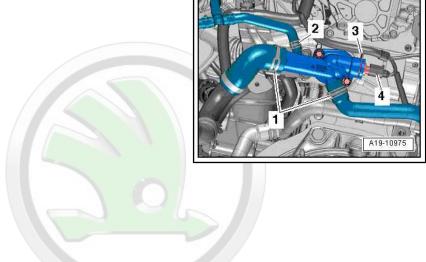




- Unscrew screws -arrows-.
- Expose the electrical lines and hoses using the lever T10468at the left air guide hose.
- Loosen hose clamp -1- and remove the left air guide hose.



Remove the coolant hoses and place them aside, while loosening the hose clamps -1-.







Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- Remove the electrical plug connection -2- for the hall sender G40- from the holder and disconnect it.
- Remove the bracket from the coolant pipe.
- Remove the coolant hoses, while loosening the hose clamps -1- and -3-.
- Unscrew screws -arrows- and detach the front coolant pipe from the cylinder block to the left.

Installing

Installation is carried out in the reverse order. When installing, observe the following:



Note

- Replace gaskets, gasket rings and O-rings.
- Secure all hose connections with hose clamps which comply with the series design ⇒ ETKA - Electronic Catalogue of Original Parts .
- Clean or smooth O-ring sealing surfaces.
- Moisten O-ring with coolant and fit onto front coolant pipe.
- Slide the front coolant pipe into the cylinder block.
- Install air quide hoses with screw clamps ⇒ "2.3 Hose connections with screw clamps", page 414.
- Install the charge air pipe ⇒ "2.1 Summary of components charge air cooler" O A. S. ŠKODA AUTO A. S. does not guarantee or accept any lia with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. page 409.
- Install the charge air pipe with inlet connection.
- Install oil filter holder with engine oil cooler ⇒ "1.5 Removing and installing the oil filter holder with the engine oil cooler", page 211.
- Install air filter ⇒ "3.5 Removing and installing air filter", page 479.
- Top up coolant ⇒ "1.2 Draining and filling coolant", page 236

Tightening torques - summaries of components

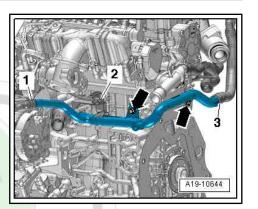


Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- Summary of components 2.1.1 Summary of components - Charge air cooler, Fabia II, Roomster, Rapid India, Rapid NH", page 409.
- Summary of components ⇒ "3.1 Summary of components - coolant pipe", page 272.
- 3.2.2 Removing and installing coolant pipe, Octavia II, Superb II, Yeti, vehicles with thermostat

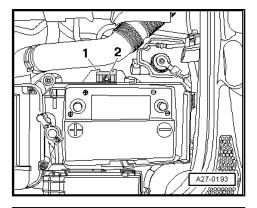
Special tools and workshop equipment required



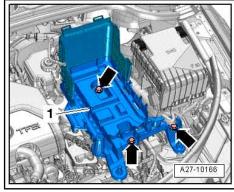
- ♦ Lever T10468-
- ♦ Hose binding claw VAS 6362-

Removing

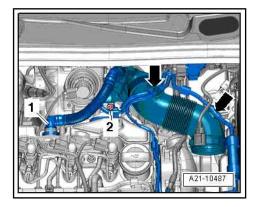
- Remove oil filter holder with engine oil cooler ⇒ "1.5 Removing and installing the oil filter holder with the engine oil cooler", page 211
- Remove battery ⇒ Electrical System; Rep. gr. 27.



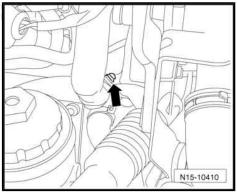
Unscrew the screws -arrows- and remove the battery tray



- Remove the hose -1- for the crankcase ventilation from the cylinder head cover, while pressing the release buttons.
- Expose the vacuum hoses -arrows- on the air guide pipe.
- Release screw -2-, swivel intake hose with connection fitting towards the rear and detach from exhaust gas turbocharger.

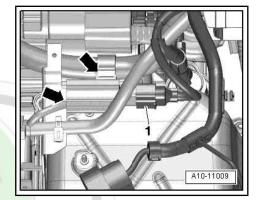


Unclip the wiring loom from the holder -arrow-s, in part or in whole

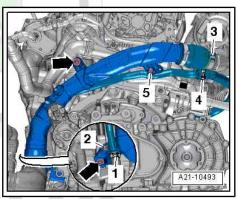


Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

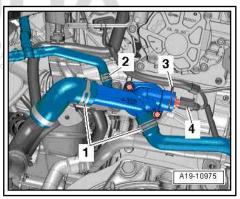
Place aside the wiring looms -arrows- and the electrical plug connection -1- at the bracket.



- Unscrew screws -1-, -5- and -arrows-.
- Expose the electrical lines and hoses using the lever T10468-at the left air guide hose.
- Loosen hose clamp -3- and remove the left air guide hose.



Remove coolant hoses, while loosening the hose clamps -1-.





- Remove the electrical plug connection -2- for the hall sender G40- from the holder and disconnect it.
- Remove the bracket from the coolant pipe.
- Remove the coolant hoses, while loosening the hose clamps -1- and -3-.
- Unscrew screws -arrows- and detach the front coolant pipe from the cylinder block to the left.

Installing

Installation is carried out in the reverse order. When installing, observe the following:



Note

- Replace gaskets, gasket rings and O-rings.
- The hose- and pipe supports and the air guide hoses must be de-oiled and degreased before installing.
- Secure all hose connections with hose clamps which comply with the series design ⇒ ETKA - Electronic Catalogue of Original Parts .
- Clean or smooth O-ring sealing surfaces.
- Moisten O-ring with coolant and fit onto front coolant pipe.
- Slide the front coolant pipe into the cylinder block.
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 —inleinstall air guide pipe A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability
 with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.
- Install air quide hoses with screw clamps ⇒ "2.3 Hose connections with screw clamps", page 414.
- Install inlet connection.
- Install the battery tray and battery ⇒ Electrical System; Rep. gr. 27.
- Install oil filter holder with engine oil cooler # 1.5 Removing and installing the oil filter holder with the engine oil cooler", page 211
- Top up coolant ⇒ "1.2 Draining and filling coolant", page 236

Tightening torques - summaries of components

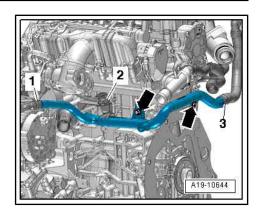


Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- Summary of components ⇒ "2.1.2 Summary of components - Charge air cooler, Octavia II, Superb II, Yeti", page 410
- Summary of components ⇒ "3.1 Summary of components - coolant pipe", page 272
- 3.2.3 Removing and installing coolant pipe, Octavia II, Superb II, Yeti, vehicles with 4/2 way valve

Special tools and workshop equipment required

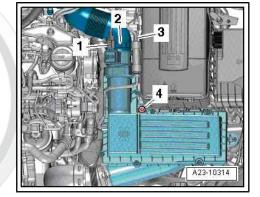


Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- Lever T10468-
- Hose clamps up to \varnothing 25 mm MP7-602 (3094)- for vehicles with double clutch gearbox
- Hose binding claw VAS 6362-

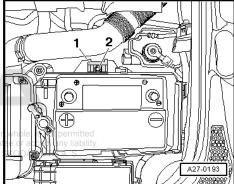
Removing

- Drain coolant ⇒ "1.2 Draining and filling coolant", page 236.
- Remove air filter ⇒ "3.5 Removing and installing air filter", page 479.

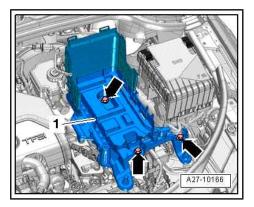


Remove battery ⇒ Electrical System; Rep. gr. 27.

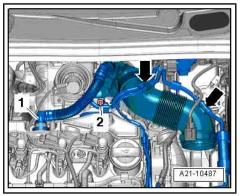




Unscrew the screws -arrows- and remove the battery tray

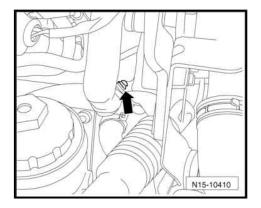


- Remove the hose -1- for the crankcase ventilation from the cylinder head cover, while pressing the release buttons.
- Expose the vacuum hoses -arrows- on the air guide pipe.
- Unscrew screw -2-, swivel intake manifold with inlet connection towards the rear and detach from exhaust gas turbocharger.

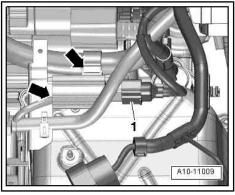




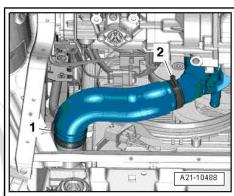
- Unclip the wiring loom from the holder -arrow-.



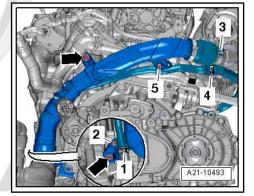
Place aside the wiring looms -arrows- and the electrical plug connection -1- at the bracket.



Remove the air guide hose, while loosening the hose clamps -1- and -2-.

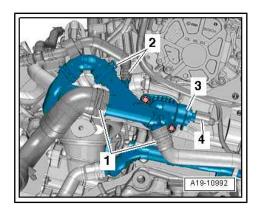


- Unscrew screws -2-, -5- and -arrows-.
- Expose the electrical lines and hoses using the lever T10468-at the left air guide hose.
- Loosen hose clamp -3- and remove the left air guide hose.





Remove coolant hoses, while loosening the hose clamps -1-.







- Remove the electrical plug connection -1- for the hall sender G40- from the holder.
- Remove the bracket from the coolant pipe.
- Remove the coolant hoses, while loosening the hose clamps -2- and -3-.
- Unscrew screws -arrows- and pull off the coolant pipe at the front from the 4/2 way valve towards the side.

Installing

Installation is carried out in the reverse order. When installing, observe the following:



Note

- Replace gaskets, gasket rings and O-rings.
- The hose- and pipe supports and the air guide hoses must be de-oiled and degreased before installing.
- Secure all hose connections with hose clamps which comply with the series design ⇒ ETKA - Electronic Catalogue of Original Parts .
- Clean or smooth O-ring sealing surfaces purposes, in part or in whole, is not permitted
- Moisten O-ring with coolant and fit onto front coolant pipe PA AUTO A. S.
- Insert the coolant pipe at the front into the 4/2 way valve.
- Install air guide pipe.
- Install inlet connection.
- Install air guide hoses with screw clamps ⇒ "2.3 Hose connections with screw clamps", page 414
- Electrical connections and proper routing > Current flow diagrams, Electrical fault finding and Fitting locations
- Install the battery tray and battery ⇒ Electrical System; Rep. gr. 27.
- Install air filter ⇒ "3.5 Removing and installing air filter", page 479
- Top up coolant 1.2 Draining and filling coolant", page 236.

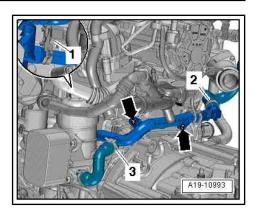
Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- Summary of components ⇒ "2.1.2 Summary of components - Charge air cooler, Octavia II, Superb II, Yeti", page 410 .
- Summary of components ⇒ "3.1 Summary of components - coolant pipe", page 272





3.2.4 Removing and installing right coolant pipes, Fabia II, Roomster, Rapid India, Rapid NH

Special tools and workshop equipment required

- ♦ Hose clamps up to Ø 25 mm MP7-602 (3094)-
- Catch pan, e.g. -VAS 6208-
- Hose binding claw VAS 6362-

Removing

- Remove the sound dampening system ⇒ Body Work; Rep.
- Disconnect electrical plug connection -2- and put the electric cable to one side.
- Place a catch pan VAS 6208- under the engine.
- Pinch off the coolant hoses using hose clamps -MP7-602 (3094)- and remove the coolant pipes, while loosening the hose clamps -1- and -3-.
- Unscrew the screws -arrows-, remove the right coolant pipes.

Installing

Installation is carried out in the reverse order. When installing, observe the following:



Note

Secure all hose connections with hose clamps which comply with the series design ⇒ ETKA - Electronic Catalogue of Original Parts .

- Install the noise insulation ⇒ Body Work; Rep. gr. 50.
- Check coolant level ⇒ "1.2 Draining and filling coolant", page 236.

Tightening torques - summaries of components

Summary of components ⇒ "3.1.1 Summary of components - Coolant pipes, Fabia II, Roomster, Rapid India, Rapid NH", page 272

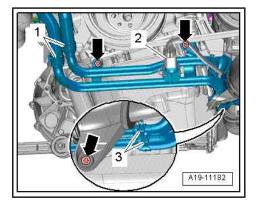
3.2.5 Removing and installing the right coolant pipe, Octavia II, Superb II, Yeti

Special tools and workshop equipment required

- Hose clamps up to \varnothing 25 mm MP7-602 (3094)-
- Catch pan, e.g. -VAS 6208-
- Hose binding clawa-aVAS 6362-b A AUTO A. S. does not guarantee or accept any liability

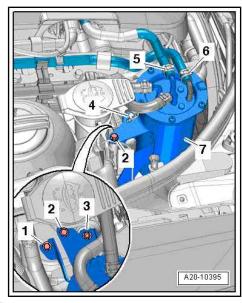
Removing

Remove engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11





- Release screw -1-.
- Release screw -2- and nut -3-.
- Remove hose bracket -4- from the fuel filter, place the fuel filter -7- to the side with the fuel hoses -5- and -6- connected.
- Remove the sound dampening system ⇒ Body Work; Rep.
- Remove the front right wheelhouse liner ⇒ Body Work; Rep. gr. 66.



- Place a catch pan VAS 6208- under the engine.
- Disconnect electrical plug connection -3- at the coolant temperature sender at the radiator outlet - G83-.
- Pinch off the coolant hoses using hose clamps -MP7-602 (3094)- and remove the right coolant pipes, while loosening the hose clamps -arrows-.
- Unscrew nut -1- and screw -2-, remove right coolant pipe.

Installing

Installation is carried out in the reverse order. When installing, observe the following:



Note

Secure all hose connections with hose clamps which comply with the series design ⇒ ETKA - Electronic Catalogue of Original Parts .

- Install front wheelhouse liner ⇒ Body Work; Rep. gr. 66.
- Install the noise insulation ⇒ Body Work; Rep. gr. 50.
- Install fuel filter Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted
 ⇒ "2.2 Summary of components or fuel filter" page 321 CODA AUTO A. S. does not guarantee or accept any liability
- Check coolant level ⇒ "1.2 Draining and filling coolant", page 236.

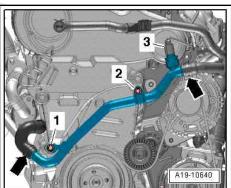
Tightening torques - summaries of components

Summary of components "3.1.2 Summary of components - Coolant pipes, Octavia II, Superb II, Yeti", page 273

3.2.6 Removing and installing right coolant pipe, Octavia II, Superb II, Yeti, vehicles with auxiliary heating

Special tools and workshop equipment required

- ◆ Hose clamps up to Ø 25 mm MP7-602 (3094)-
- Hose binding claw VAS 6362-

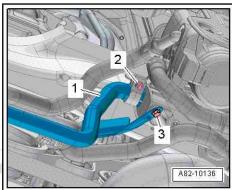


Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ...

1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

Removing

- Remove the sound dampening system ⇒ Body Work; Rep.
- Remove the front right wheelhouse liner ⇒ Body Work; Rep. gr. 66.
- Unscrew bolt -3-.
- Loosen nut -2-, remove exhaust pipe -1- of the auxiliary heat-



- Unscrew screws -2- and -4-.
- Pinch off the coolant hoses using hose clamps -MP7-602 (3094)- and remove them, while loosening the hose clamps -1- and -3-.
- Remove right coolant pipes.

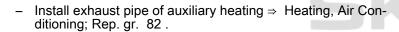
Installing

Installation is carried out in the reverse order. When installing, observe the following:



Note

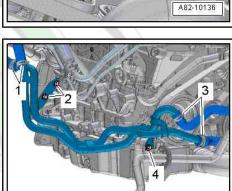
Secure all hose connections with hose clamps which comply with the series design ⇒ ETKA - Electronic Catalogue of Original Parts .



- Install front wheelhouse liner \Rightarrow Body Work; Rep., gr., h. 66 pying for private or commercial purposes, in part or in whole, is not permitted Install the noise insulation \Rightarrow Body Work; Rep. gr. 150 arrectness of information in this document. Copyright by SKODA AUTO A. S.
- Check coolant level ⇒ "1.2 Draining and filling coolant", page 236.

Tightening torques - summaries of components

Summary of components ⇒ "3.1.2 Summary of components - Coolant pipes, Octavia II, Superb II, Yeti", page 273



A19-11343



4 Radiator and radiator fan

- ⇒ "4.1 Summary of components radiator/radiator fan", page 289
- ⇒ "4.2 Summary of components fan shroud with radiator fan V7 <u>", page 296</u>
- ⇒ "4.3 Removing and installing fan shroud with radiator fan ", page
- ⇒ "4.4 Removing and installing radiator", page 301
- 4.1 Summary of components - radiator/radiator fan
- ⇒ "4.1.1 Summary of components cooler/radiator fan, Fabia II, Roomster, Rapid NH", page 289
- ⇒ "4.1.2 Summary of components cooler/radiator fan, Rapid India", page 291
- ⇒ "4.1.3 Summary of components cooler/radiator fan, Octavia II, Superb II, Yeti", page 293
- ⇒ "4.1.4 Summary of components cooler/radiator fan, Octavia II, Superb II, Yeti", page 294
- Summary of components cooler/radia-4.1.1 tor fan. Fabia II. Roomster, Rapid NH



WARNING

Hot steam or hot coolant may escape when the compensation bottle is opened. Cover the cap with a cloth and open carefully.



Note

- Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.
- When the engine is warm the cooling system is under pressure. If necessary, release pressure before beginning repair work.
- unless authorised by SKODA AUTO A. S. SKODA AUTO A. S. does not guarantee or accept any liability

 Secure all hose connections with corresponding hose clips.

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- Spring-type clip pliers are recommended for installation of spring-type clips.
- Replace seals and sealing rings.
- When installing fit the coolant hoses free of stress, without them touching any other components (pay attention to the marking on the coolant connection).



1 - Clamp

□ Replace if damaged.

2 - Top coolant hose

□ Connection diagram for coolant hoses
 ⇒ "1.1 Connection diagram for coolant hoses", page 230

3 - expansion reservoir

☐ Check the cooling system for tightness

⇒ "1.3 Check cooling
system for leaks",
page 246

4 - Screw cap

- ☐ Test pressure 0.14...0.16 MPa (1.4...1.6 bar)
- ☐ Check

 ⇒ "1.3 Check cooling
 system for leaks",
 page 246.

5 - Screw

□ 5 Nm

6 - Connector

7 - Coolant hose

8 - Radiator mounting

9 - Screw

□ 5 Nm

10 - Clamp

Replace if damaged.

11 - Radiator

☐ Removing and installing ⇒ "4.4 Removing and installing radiator", page 301

12 - Fan shroud with radiator fan - V7-

- □ Removing and installing ⇒ "4.3 Removing and installing fan shroud with radiator fan ", page 298
- □ Various versions, observe part numbers ⇒ ETKA Electronic Catalogue of Original Parts

13 - Bottom coolant hose

☐ Connection diagram for coolant hoses ⇒ "1.1 Connection diagram for coolant hoses", page 230

14 - Charge air cooler

□ can only be removed and installed together with the radiator

⇒ "4.4 Removing and installing radiator" page 301 all purposes, in part or in whole, is not permitted
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15 - Bottom radiator bearing

□ black

16 - Clamp

□ Replace if damaged.

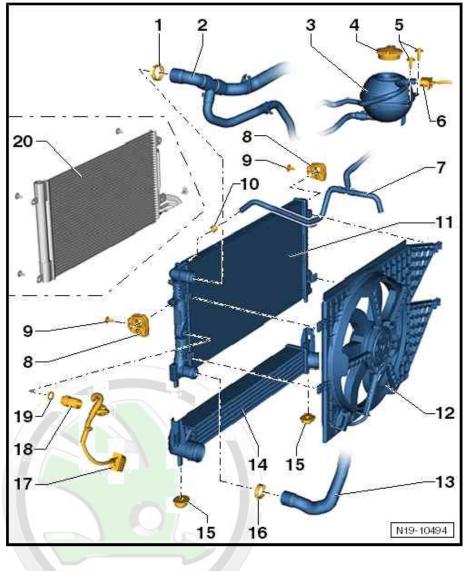
17 - Connector

18 - Thermoswitch for radiator fan - F18-

for fan

switching temperatures:

Step 1



- on: 91 97 °C
- ♦ off: 84 91 °C

Step 2

- on: 99 105 °C
- ♦ off: 91 98 °C
 - □ 35 Nm

19 - Sealing ring

- □ Replace after disassembly
- 20 Condenser
 - □ removing and installing ⇒ Heating, Air Conditioning; Rep. gr. 87

4.1.2 Summary of components - cooler/radiator fan, Rapid India



WARNING

Hot steam or hot coolant may escape when the compensation bottle is opened. Cover the cap with a cloth and open carefully.



Note

- When the engine is warm the cooling system is under pressure. If necessary, release pressure before beginning repair work.
- Secure all hose connections with corresponding hose clips.
- Spring-type clip pliers are recommended for installation of spring-type clips.
- Replace seals and sealing rings.
- When installing fit the coolant hoses free of stress, without them touching any other components (pay attention to the marking on the coolant connection).





1 - Radiator

□ Removing and installing ⇒ "4.4 Removing and installing radiator", page 301

2 - Clamp

Replace if damaged.

3 - Top coolant hose

Connection diagram for coolant hoses ⇒ "1.1 Connection diagram for coolant hoses", page 230

4 - Screw

□ 5 Nm

5 - Radiator mounting

6 - Screw cap

- ☐ Test pressure 0.14...0.16 MPa (1.4...1.6 bar)
- ☐ Check ⇒ "1.3 Check cooling system for leaks", page 246

7 - Screw

□ 5 Nm

8 - expansion reservoir

☐ Check the cooling system for tightness ⇒ "1.3 Check cooling system for leaks", page 246

6 8 5 15 9 14 13 12 10 10 11 N19-10514

9 - Fan shroud with radiator fan

- V7-

☐ Removing and installing ⇒ "4.3 Removing and installing fan shroud with radiator fan ", page 298

10 - Charge air hose

11 - Bottom radiator bearing

□ black

12 - Charge air cooler

can only be removed and installed together with the radiator ⇒ "4.4 Removing and installing radiator", page 301

13 - Coolant hose

☐ Connection diagram for coolant hoses <u>⇒ "1.1 Connection diagram for coolant hoses", page 230</u>

14 - Clamp

Replace if damaged.

15 - Plug



4.1.3 Summary of components - cooler/radiator fan, Octavia II, Superb II, Yeti



WARNING

Hot steam or hot coolant may escape when the compensation bottle is opened. Cover the cap with a cloth and open carefully.



Note

- When the engine is warm the cooling system is under pressure. If necessary, release pressure before beginning repair work.
- Secure all hose connections with corresponding hose clips.
- Spring-type clip pliers are recommended for installation of spring-type clips.
- ♦ Replace seals and sealing rings.
- When installing fit the coolant hoses free of stress, without them touching any other components (pay attention to the marking on the coolant connection).

Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

1 - Radiator

□ Removing and installing ⇒ "4.4 Removing and installing radiator", page 301

2 - Screw cap

- ☐ Test pressure 0.14 -0.16 MPa (1.4 - 1.6 bar)
- □ Check \Rightarrow page 250.
- 3 Connector
- 4 Screw
 - □ 3 Nm
- 5 expansion reservoir
- 6 O-ring
 - Replace if damaged.

7 - Bottom coolant hose

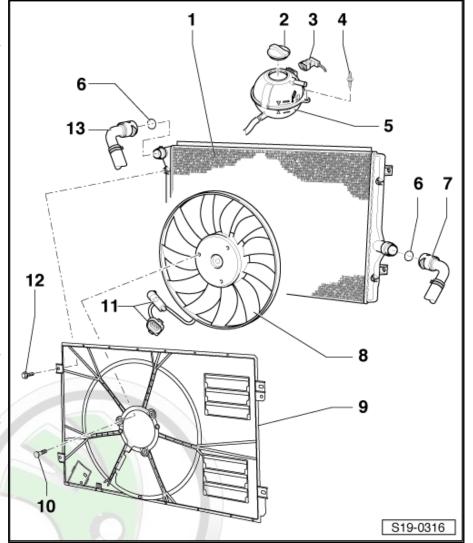
- Connection diagram for coolant hoses ⇒ "1.1 Connection diagram for coolant hoses", page 230
- 8 Radiator fan V7-
 - □ Removing and installing ⇒ "4.3 Removing and installing fan shroud with radiator fan ", page 298
- 9 Fan shroud
- 10 Screw
 - □ 5 Nm
- 11 Connector
- 12 Screw
- □ 5 Nm
- 13 Top coolant hose
 - to connection fitting laterally at cylinder head
 - ☐ Connection diagram for coolant hoses ⇒ "1.1 Connection diagram for coolant hoses", page 230

Summary of components - cooler/radia-4.1.4 tor fan, Octavia II, Superb II, Yeti



WARNING

Hot steam or hot coolant may escape when the compensation bottle is opened. Cover the cap with a cloth and open carefully.







Note

- When the engine is warm the cooling system is under pressure. If necessary, release pressure before beginning repair work.
- Secure all hose connections with corresponding hose clips.
- Spring-type clip pliers are recommended for installation of spring-type clips.
- ♦ Replace seals and sealing rings.
- When installing fit the coolant hoses free of stress, without them touching any other components (pay attention to the marking on the coolant connection).

1 - Top coolant hose

- to connection fitting laterally at cylinder head
- Connection diagram for coolant hoses ⇒ "1.1 Connection diagram for coolant hoses" page 230

2 - O-ring

☐ Replace if damaged.

3 - Radiator

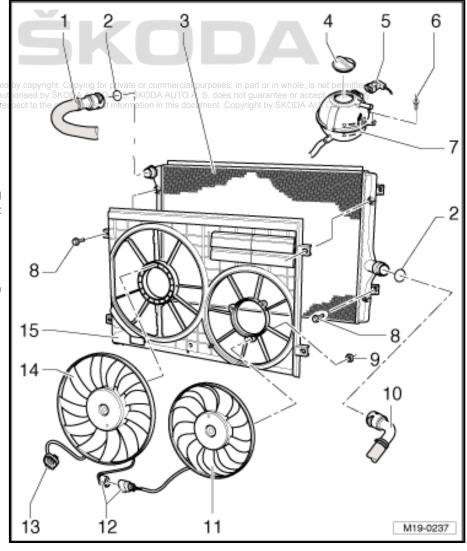
□ Removing and installing ⇒ "4.4 Removing and installing radiator", page 301

4 - Screw cap

- ☐ Test pressure 0.14 -0.16 MPa (1.4 - 1.6 bar)
- \Box Check \Rightarrow page 250.
- 5 Connector
- 6 Screw
 - □ 3 Nm
- 7 expansion reservoir
- 8 Screw
 - □ 5 Nm
- 9 Nut
 - □ 5 Nm

10 - Bottom coolant hose

Connection diagram for coolant hoses ⇒ "1.1 Connection diagram for coolant hoses", page 230



11 - Right radiator fan - V35-

☐ Removing and installing ⇒ "4.3 Removing and installing fan shroud with radiator fan ", page 298

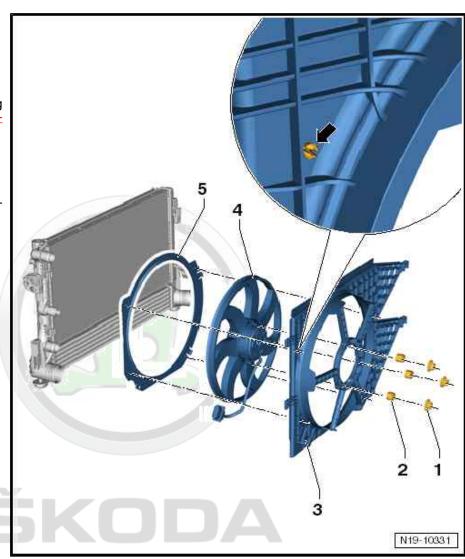


- 12 Connector
- 13 Connector
- 14 Radiator fan V7-
 - □ Removing and installing ⇒ "4.3 Removing and installing fan shroud with radiator fan ", page 298
- 15 Fan shroud
- 4.2 Summary of components - fan shroud with radiator fan - V7-

⇒ "4.2.1 Summary of components - fan shroud with radiator fan V7 , Fabia II, Roomster, Rapid NH", page 296

 \Rightarrow "4.2.2 Summary of components - fan shroud with radiator fan V7 , (Rapid India)", page 297

- Summary of components fan shroud with radiator fan V7-, Fabia II, 4.2.1 Roomster, Rapid NH
- 1 Nut
 - □ 5 Nm
- 2 Bushing
- 3 Fan shroud
 - □ Removing and installing ⇒ "4.3 Removing and installing fan shroud with radiator fan ", page 298
 - ☐ Various versions, observe part numbers ⇒ ETKA - Electronic Catalogue of Original Parts
- 4 Radiator fan V7-
- 5 The fan ring
 - attached to the fan shroud by means of integrated expanding rivets -arrow-





4.2.2 Summary of components - fan shroud with radiator fan - V7-, (Rapid India)

1 - Nut

□ 5 Nm

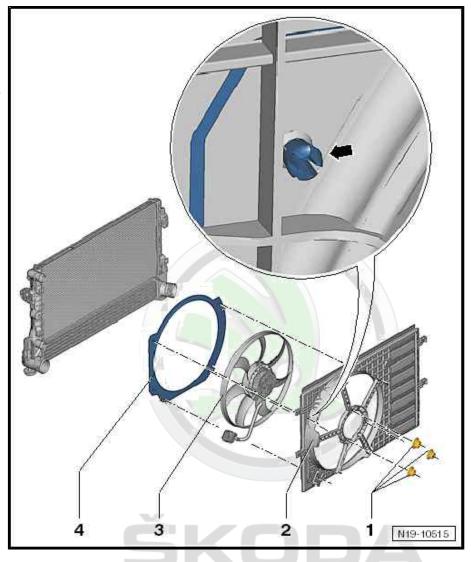
2 - Fan shroud

- □ Removing and installing ⇒ "4.3 Removing and installing fan shroud with radiator fan ", page 298
- ☐ Various versions, observe part numbers ⇒ ETKA - Electronic Catalogue of Original Parts

3 - Radiator fan - V7-

4 - The fan ring

attached to the fan shroud by means of integrated expanding rivets -arrow-





4.3 Removing and installing fan shroud with radiator fan

⇒ "4.3.1 Removing and installing fan shroud with radiator fan V7 , Fabia II, Roomster, Rapid India, Rapid NH", page 298

⇒ "4.3.2 Removing and installing fan shroud for radiator fan V7 and V35 , Octavia II, Superb II, Yeti", page 299

4.3.1 Removing and installing fan shroud with radiator fan - V7-, Fabia II, Roomster, Rapid India, Rapid NH

Removing

- Screw out screws -arrows- for inlet connection -1-. Remove connecting hose -2- to air filter.
- Remove the sound dampening system ⇒ Body Work; Rep. gr. 50.
- Remove right charge air hose and left charge air hose ⇒ "2.1.1 Summary of components - Charge air cooler, Fabia II, Roomster, Rapid India, Rapid NH", page 409

For Rapid India vehicles

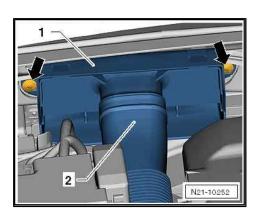
Push lock carrier into service position ⇒ Body Work; Rep. gr.

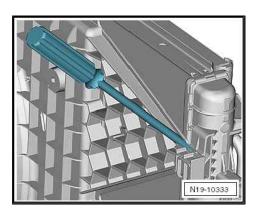
Continued for all vehicles

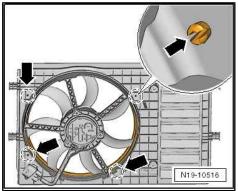
- Disconnect plug for radiator fan V7- -Pos. 17-⇒ "4.1.1 Summary of components - cooler/radiator fan, Fabia II, Roomster, Rapid NH", page 289
- Release the fan shroud with the radiator fan V7- on the right and left catch hooks using a suitable tool.
- Push the fan shroud with the radiator fan V7- upwards out of the supports and remove downwards.

Remove the radiator fan from the fan shroud

- Disconnect the plug connection for the radiator fan V7- from the holder.
- Turn back dowels from the expanding rivet -arrows-.



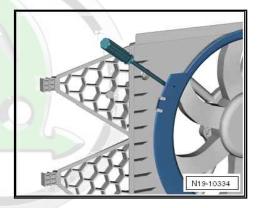








- Carefully slacken the fan ring on the reverse side of the shroud using a suitable tool.
- Remove fan ring.

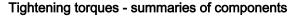


Unscrew the nuts -arrows- and remove the radiator fan - V7from the shroud.

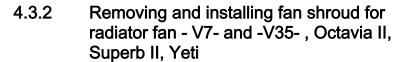
Installing

Assembly is carried out in the reverse order. When installing, observe the following:

- Insert the fan shroud with the radiator fan V7- from below and slide into all 4 supports on the radiator from above ang for pri
- The fan shroud must click audibly into place in the supports on the top right and left.
- Check that the fan shroud with the radiator fan V7- catches correctly in the installation position.



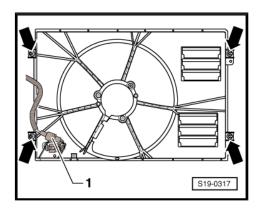
Summary of components ⇒ "4.2 Summary of components - fan shroud with radiator fan V7 ", page 296

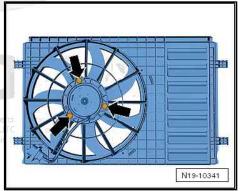


Removing

For vehicles with a fan

Unscrew top screws -top arrows- of the fan shroud.

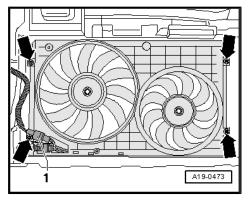






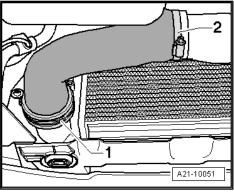
For vehicles with two fans

- Unscrew top screws -top arrows- of the fan shroud.



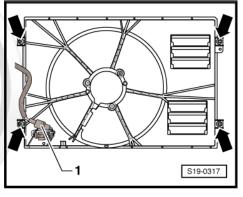
Continued for all vehicles

- Remove the sound dampening system ⇒ Body Work; Rep. gr. 50.
- Remove the left charge air hose, to do so loosen the hose clamp -2- and raise the clamp -1-.



For vehicles with a fan

- Disconnect electrical plug connection -1-.
- Unscrew bottom screw -bottom arrows- of the fan shroud.
- Remove fan shroud with radiator fan downwards.



For vehicles with two fans

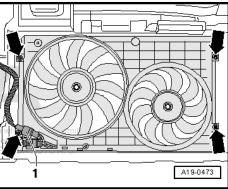
- Disconnect electrical plug connection -1-.
- Unscrew bottom screw -bottom arrows- of the fan shroud.
- Remove fan shroud with radiator fans downwards.

Installing

Installation is carried out in the reverse order.

Tightening torques - summaries of components

- Summary of components ⇒ "4.1.3 Summary of components - cooler/radiator fan, Octavia II, Superb II, Yeti", page 293
- Summary of components ⇒ "4.1.4 Summary of components - cooler/radiator fan, Octavia II, Superb II, Yeti", page 294





4.4 Removing and installing radiator

⇒ "4.4.1 Removing and installing radiator, Fabia II, Roomster, Rapid India, Rapid NH", page 301

⇒ "4.4.2 Removing and installing radiator, Octavia II, Superb II, Yeti", page 303

4.4.1 Removing and installing radiator, Fabia II, Roomster, Rapid India, Rapid NH

Special tools and workshop equipment required

- ◆ Catch pan , e.g. -VAS 6208-
- ♦ Broad cross-head screwdriver
- Pliers for spring-type clips

Removing

Remove front bumper ⇒ Body Work; Rep. gr. 63.

For Rapid India vehicles

Remove front headlights ⇒ Electrical system; Rep. gr. 27.

Continued for all vehicles

- Drain coolant ⇒ "1.2 Draining and filling coolant", page 236.
- Remove fan shroud with radiator fan V7-⇒ "4.3 Removing and installing fan shroud with radiator fan ", page 298 .

For vehicles Fabia II, Roomster, Rapid NH

Disconnect plug from thermo-switch for radiator fan - F18-.

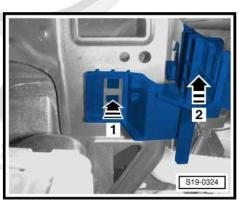
Continued for all vehicles

Detach top coolant hose from connection fitting of radiator.

For vehicles Fabia II, Roomster, Rapid NH

Remove bracket for washer fluid reservoir.

To do so, press in the catch -direction of arrow 1- and at the same time push the bracket upwards -direction of arrow 2-.





Continued for all vehicles

- Release right and left screw -2- for radiator bearing.
- Push the radiator to the rear and remove the right and left radiator bearing Pos. -8-
 - "4.1.1 Summary of components cooler/radiator fan, Fabia II, Roomster, Rapid NH", page 289.

Vehicles without air conditioning system

Push the radiator together with the charge air cooler upwards out of the lower rubber bearings and remove it laterally down.

Vehicles with air conditioning

Remove V-ribbed belt ⇒ "1.1 Assembly overview - V-ribbed belt", page 60.



WARNING

Risk of injury through refrigerant.

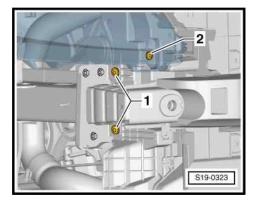
♦ Do not open the refrigerant circuit of the air conditioning system.

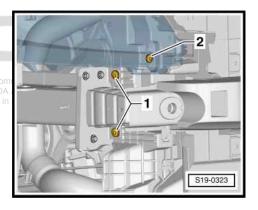


Caution

Risk of damaging the condenser as well as the refrigerant lines and hoses.

- Do not over-tension or buckle refrigerant lines and hoses.
- Remove the AC compressor from the bracket for auxiliary units and secure it with connected refrigerant hoses to the body.
- Mark the installation position of the screws -1- on the right and left and only slacken them.
- Push the radiator together with the charge air cooler and the condenser upwards out of the lower rubber bearings.
 - To do so, pull the plastic housing of the lock carrier downwards. On the right between the refrigerant line and the body there is very little space available.
- Lay the radiator with the condenser to the rear.







- Unscrew the screws -arrows- of the condenser -2- from the radiator -1-.
- Draw the condenser forwards and attach to the lock support.
- Remove radiator together with charge air cooler laterally down.

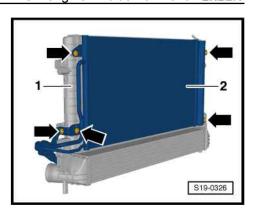
Separate the charge air cooler from the radiator.

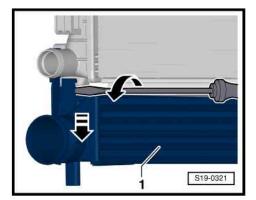


Caution

To prevent damage to the charge air cooler, the separation of the charge air cooler from the radiator must be carried out by 2 mechănics.

- Slide a broad cross-head screwdriver into the left catch from the front and the rear. Carefully open the catch of the charge air cooler -1- at the radiator by turning the screwdriver.
- Pull the left charge air cooler slightly down in this position.

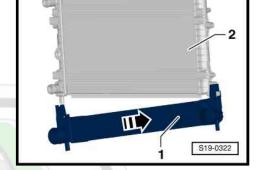




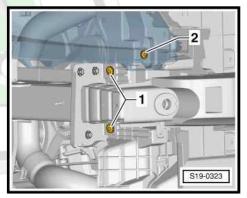
Push the charge air cooler -1- to the right out of the catch of the radiator -2-.

Installing

Assembly is carried out in the reverse order. When installing, observe the following:



- On vehicles with air conditioning system, push the plastic housing of the lock carrier upwards into the initial position and tighten the screws -1- on the right and left.
 - Tightening torque: 8 Nm.
- Top up coolant 1.2 Draining and filling coolant", page 236



4.4.2 Removing and installing radiator, Octavia II, Superb II, Yeti

Special tools and workshop equipment required

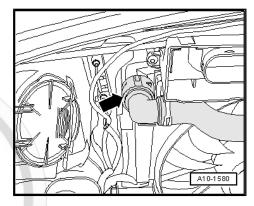
♦ Catch pan , e.g. -VAS 6208-



♦ Pliers for spring-type clips

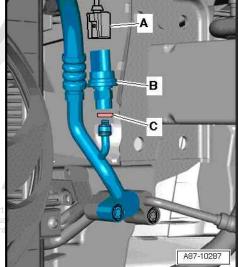
Removing

- Drain coolant ⇒ "1.2 Draining and filling coolant", page 236.
- Pull off left coolant hose from radiator -arrow-.
- Remove fan shroud with radiator fans ⇒ "4.3 Removing and installing fan shroud with radiator fan ", page 298

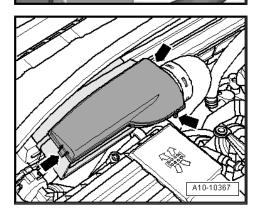


Disconnect plug -A- on the high pressure sender - G65- -B-.

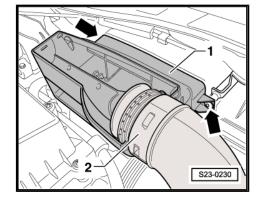




Remove cover for connection fitting, to do so release lateral retaining clasps -arrows-.



Release screws -arrows- for connection fitting -1- and take connecting hose -2- out of the guide.



Press in catch pegs -1- and -3- and pull off connecting hose -4- from air filter housing -2-.



Screw out screws -arrows- and remove the radiator upwards.

Installing

Assembly is carried out in the reverse order. When installing, observe the following:

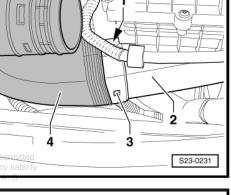


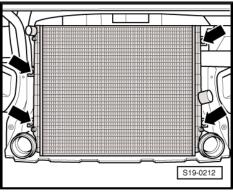
Note

- ♦ Replace gasket rings and O-rings.
- Secure all hose connections with corresponding hose clips.
- Top up coolant ⇒ "1.2 Draining and filling coolant", page 236

Tightening torques - summaries of components

- Summary of components ⇒ "4.1.3 Summary of components - cooler/radiator fan, Octavia II, Superb II, Yeti", page 293
- Summary of components ⇒ "4.1.4 Summary of components - cooler/radiator fan, Octavia II, Superb II, Yeti", page 294
- Inlet connection \Rightarrow "3.2.2 Summary of components - Air filter, Octavia II, Superb II, Yeti", page 470 .







Fuel supply system 20 –

Procedure in case of misfuelling

- ⇒ "1.1 Step 1, engine started with incorrect fuel", page 307
- *1.2 Step 2, the engine was not started with incorrect fuel", page
- ⇒ "1.3 Step 3, metal swarfs are present in the fuel delivery unit and the fuel tank", page 307
- ⇒ "1.4 Step 4, no metal swarfs are present in the fuel delivery unit and the fuel tank", page 308
- ⇒ "1.5 Step 5, metal swarfs are present in the high pressure <u>pump", page 309</u>
- ⇒ "1.6 Step 6: no metal swarfs are present in the high pressure <u>pump", page 309</u>

Special tools and workshop equipment required

Fuel pump identification unit - VAS 6774-



Note

- Fuel lines are secured with quick-release couplings *⇒ "2.10 Separating push-on couplings", page 343* .
- Fuel hoses must only be secured with spring-type clips ⇒ ET-KA - Electronic Catalogue of Original Parts .
- Spring-type clip pliers are recommended for installation of spring-type clips.

Observe the safety instructions ⇒ "2 Safety instructions", page 3

Observe rules for cleanliness

⇒ "3.1 Rules of cleanliness", page 7



Caution

Because of insufficient lubrication by diesel fuel, misfuelling can cause irreversible damage to high pressure components, particularly the high pressure pump.

- Damage can be expected in the form of scoring and particle erosion.
- Thus, free metal particles contaminate the fuel system as well as the injection system, whereby further damage can be expected especially to the fuel pressure regulating valve and in the injection units.
- In case of uncertainty regarding the fuel quality, carry out a fuel analysis with a fuel identification device - VAS 6774-⇒ Owner's Manual . This device does not replace laboratory analysis in the event of accidents in terms of warranty!



Note

Follow the individual work sequences in this guideline like a flow chart, taking account of the various factors.

If the engine was started with incorrect fuel?

⇒ "1.1 Step 1, engine started with incorrect fuel", page 307

⇒ "1.2 Step 2, the engine was not started with incorrect fuel", <u>page 307</u>

1.1 Step 1, engine started with incorrect fuel

Completely empty the fuel tank ⇒ "2.6 Extract fuel from the fuel tank", page 329

Remove fuel delivery unit

- ⇒ "2.7 Removing and installing fuel delivery unit", page 332.
- Check the fuel tank for swarfs.
- Empty fuel pump reservoir of the fuel delivery unit.
- Carry out a visual inspection for coarse contamination and swarfs in the fuel pump reservoir and on the preliminary stage screen.

Are swarfs present?

⇒ "1.3 Step 3, metal swarfs are present in the fuel delivery unit and the fuel tank", page 307

⇒ "1.4 Step 4, no metal swarfs are present in the fuel delivery unit and the fuel tank", page 308

1.2 Step 2, the engine was not started with incorrect fuel



Caution

Do not switch on the ignition.

The engine must not be started.

- Completely empty the fuel tank ⇒ "2.6 Extract fuel from the fuel tank", page 329
- Fill the fuel tank with 5 I of diesel fuel and empty it again ⇒ "2.6 Extract fuel from the fuel tank", page 329
- Replace the fuel filter 2.2 Summary of components - fuel filter", page 321
- Fill vehicle tank and take it for a test run.

End

1.3 Step 3, metal swarfs are present in the fuel delivery unit and the fuel tank

Clean, for example using fuel delivery unit and fuel tank with

diesel suction device, e. g. -VAS 5226 by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by \$KODA AUTO A. S. \$KODA AUTO A. S. does not guarantee or accept any liability.





Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

Install fuel delivery unit

⇒ "2.7 Removing and installing fuel delivery unit", page 332.

Vehicles fitted with auxiliary heating

 Check the fuel line between the fuel tank and dosing pump -V54- for swarfs. Replace where necessary ⇒ Heating, Air Conditioning; Rep. gr. 82.

Continued for all vehicles

- Fill the fuel tank with 5 I of diesel fuel and empty it again
 ⇒ "2.6 Extract fuel from the fuel tank", page 329
- Replace the following high pressure components:
- ♦ High pressure pump ⇒ "2.8 Removing and installing the high pressure pump", page 450
- ♦ High pressure lines ⇒ "2.1 Assembly overview - fuel system", page 431.
- ◆ Fuel distributor ⇒ "2.1 Assembly overview - fuel system", page 431.
- Fuel pressure regulating valve N276-⇒ "2.6 Replace fuel pressure regulating valve N276", page 446.
- ◆ Fuel pressure sender G247-⇒ "2.7 Removing and installing fuel pressure sender G247", page 448.
- ♦ Injection units ⇒ "2.3 Removing and installing injection unit (piezo injector)", page 436.
- ◆ Fuel return-flow lines ⇒ "2.1 Assembly overview - fuel system", page 431.
- Fuel filter ⇒ "2.2 Summary of components - fuel filter", page 321.
- Fill vehicle tank.
- Filling and bleeding the fuel system
 ⇒ "1.3 Filling/bleeding the fuel system", page 429 .
- Perform a test drive.

End

1.4 Step 4, no metal swarfs are present in the fuel delivery unit and the fuel tank

Fill the fuel tank with 5 I of diesel fuel and empty it again

 <u>*"2.6 Extract fuel from the fuel tank"</u>, page 329



Caution

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with respect to the correctness of information in this

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When removing the fuel dosage valve from the high pressure pump, there is the risk that dirt may get into the pump whereby damage to the pump could occur. Therefore, clean the fuel dosage valve as well as the high pressure pump as thoroughly as possible before removing, while doing so observe the rules of cleanliness when working on the injection system ⇒ "3.1 Rules of cleanliness", page 7.

Disconnect the plug from the valve.



- Unscrew the screws -arrows- and carefully remove the fuel dosage valve - N290- -A- from the high pressure pump.
- Check fuel dosage valve N290- and high pressure pump for swarfs.

Are swarfs present?

⇒ "1.5 Step 5, metal swarfs are present in the high pressure pump", page 309

⇒ "1.6 Step 6: no metal swarfs are present in the high pressure pump", page 309

Step 5, metal swarfs are present in the 1.5 high pressure pump

- Replace the following high pressure components:
- Replace high pressure pump '2.8 Removing and installing the high pressure pump", page
- High pressure lines ⇒ "2.1 Assembly overview - fuel system", page 431 .
- Fuel distributor ⇒ "2.1 Assembly overview - fuel system", page 431
- Fuel pressure regulating valve N276-⇒ "2.6 Replace fuel pressure regulating valve N276", <u>page 446</u> .
- ◆ Fuel pressure sender G247-⇒ "2.7 Removing and installing fuel pressure sender G247", page 448.
- Injection units ⇒ "2.3 Removing and installing injection unit (piezo injector)", page 436.
- Fuel return-flow lines ⇒ "2.1 Assembly overview - fuel system", page 431.
- ♦ Fuel filter ⇒ "2.2 Summary of components - fuel filter", page 321.
- Fill vehicle tank.
- Filling and bleeding the fuel system ⇒ "1.3 Filling/bleeding the fuel system", page 429.
- Perform a test drive.

End

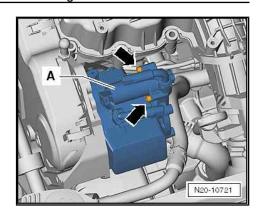
1.6 Step 6: no metal swarfs are present in the high pressure pump



Caution

Watch out for damage to sealing rings for fuel dosage valve -N290- . If a sealing ring is damaged, the high pressure pump must be replaced.

Wet the lower gasket ring for fuel dosage valve - N290- with does not guarantee or accept any liability fuel.





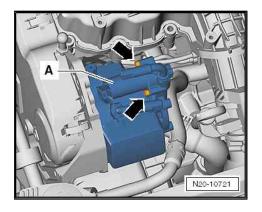
Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- Slide the valve into the high pressure pump with light rotary movements.
- Screw in screws -arrows- only by hand.
- Tighten the screws in two stages:

Step	Bolts	Tightening torque	
1.	-Arrows-	3 Nm	
2.	-Arrows-	7 Nm	

- Replace the fuel filter
 - \Rightarrow "2.2 Summary of components fuel filter", page 321 .
- Filling and bleeding the fuel system ⇒ "1.3 Filling/bleeding the fuel system", page 429.
- Fill vehicle tank and take it for a test run.

End









2 Removing and installing parts of the fuel supply system

- ⇒ "2.1 Summary of components fuel tank with attached parts", page 311
- ⇒ "2.2 Summary of components fuel filter", page 321
- ⇒ "2.3 Drain fuel filter", page 325
- ⇒ "2.4 Removing and installing fuel filter", page 326
- ⇒ "2.5 Venting air from the fuel filter", page 328
- ⇒ "2.6 Extract fuel from the fuel tank", page 329
- ⇒ "2.7 Removing and installing fuel delivery unit", page 332
- ⇒ "2.8 Removing and installing the fuel gauge sender", page 339
- ⇒ "2.9 Removing and installing suction jet pump", page 343
- ⇒ "2.10 Separating push-on couplings", page 343
- ⇒ "2.11 Removing and installing the fuel tank", page 347
- ⇒ "2.12 Identification mark of the different low-pressure fuel systems", page 357

2.1 Summary of components - fuel tank with attached parts

- ⇒ "2.1.1 Summary of components fuel tank with attached parts, Fabia II", page 311
- ⇒ "2.1.2 Summary of components Fuel tank with attached parts, Roomster, Rapid India, Rapid NH", page 314
- "2.1.3 Summary of components Fuel tank with attached parts, Octavia II with front wheel drive, Yeti", page 316
- ⇒ "2.1.4 Summary of components Fuel tank with attached parts, Octavia II with four-wheel drive, Superb II", page 318

2.1.1 Summary of components - fuel tank with attached parts, Fabia II



Note

- Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.
- Fuel lines are secured with quick-release couplings.
- Fuel hoses must be secured only with spring strap clips. The use of clamp-type or screw-type clips is not allowed.
- Spring-type clip pliers are recommended for installation of spring-type clips.

Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

1 - Screw cap

2 - Seal

3 - Fuel tank lid unit

with rubber bowl

4 - Gravity valve

- □ to remove, unclip valve at top and lift out of filler
- □ inspect valve for blockage:
- Valve horizontal valve
- Valve tilted by 45° valve closed

5 - Earth connection

6 - Screw

□ 10 Nm

7 - Vent lines

clipped in place on fuel tank

8 - Screw

□ 25 Nm

9 - Fuel tank

- When removing, support e.g. with the engine/ gearbox jack -V.A.G 1383 A- or -VAS 6931-
- □ Removing and installing ⇒ "2.11 Removing and installing the fuel tank", page 347

1 16 15 13 12 11 10 S20-0311

10 - Tensioning strap

11 - Fuel pump

- □ Removing and installing ⇒ "2.7 Removing and installing fuel delivery unit", page 332
- □ with fuel gauge sender G-
- removing and installing the sender for fuel gauge
 - ⇒ "2.8 Removing and installing the fuel gauge sender ", page 339
- ☐ inspecting fuel pump ⇒ "3 inspecting fuel pump", page 361
- Note installation position on the fuel tank ⇒ page 313
- Clean strainer if dirty

12 - Sealing ring

- □ Replace after disassembly
- only moisten from the inside the flange of the fuel delivery unit with fuel for installation purposes

13 - Union nut

- use wrench MP 1-227 (3217)- for removing and installing
- □ 80 Nm

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14 - Feed line

- to fuel filter
- □ Connection to the delivery unit ⇒ page 313

	check	for	firm	seating
--	-------	-----	------	---------

□ black

15 - Return-flow line

check for firm seating

☐ Connection to the delivery unit ⇒ page 313

□ blue

16 - Vent valve

□ to remove, unclip valve at side and take out of filler neck

□ before installing, unscrew screw cap -Pos. 1-

□ Check \Rightarrow page 313.

17 - O-ring

□ Replace after disassembly

Fitting position of the flange of the fuel delivery unit/the transmitter for the fuel gauge display

Marking on the flange must be aligned with marking on the fuel tank -arrows-.

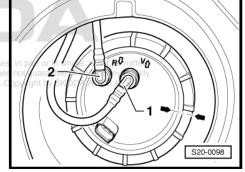
(Black) feed line -1- to connection marked JVT

(Blue) return-flow line -2- to connection marked -R-prediction in this document.



Note

After installing the fuel delivery unit/the transmitter for the fuel gauge display, check whether the feed line and the return-flow line are clipped onto the fuel tank.



Inspect vent valve

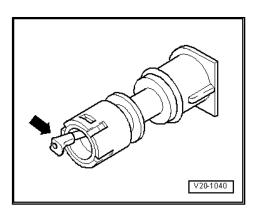
Lever in off position: valve closed

Lever pushed in direction of arrow: valve open.



Note

Before installation of the vent valve unscrew the cap from the filler neck.





2.1.2 Summary of components - Fuel tank with attached parts, Roomster, Rapid India, Rapid NH



Note

- Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.
- ♦ Fuel lines are secured with quick-release couplings.
- ♦ Fuel hoses must be secured only with spring strap clips. The use of clamp-type or screw-type clips is not allowed.
- Spring-type clip pliers are recommended for installation of spring-type clips.

1 - Fuel tank

- □ When removing, support e.g. with the engine/gearbox jack V.A.G 1383 A- or VAS 6931-
- □ Removing and installing ⇒ "2.11 Removing and installing the fuel tank", page 347

2 - Sealing ring

- ☐ Replace after disassembly
- only moisten from the inside the flange of the fuel delivery unit with fuel for installation purposes

3 - Fuel pump

- □ Removing and installing ⇒ "2.7 Removing and installing fuel delivery unit", page 332
- with fuel gauge sender G-
- removing and installing the sender for fuel gauge
 - ⇒ "2.8 Removing and installing the fuel gauge sender", page 339
- □ inspecting fuel pump ⇒ "3 inspecting fuel pump", page 361
- Note installation position on the fuel tank
- ⇒ page 316 ted by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability Clean straines of information in this document. Copyright by ŠKODA AUTO A. S.

4 - Union nut

- □ use wrench MP 1-227 (3217)- for removing and installing
- □ 80 Nm

5 - Feed line
□ to fuel filter
□ check for firm seating
□ black
6 - Return-flow line
□ check for firm seating
☐ blue 7 - Overflow hose
8 - O-ring Replace after disassembly
9 - Gravity valveto remove, unclip valve at top and lift out of filler neck
inspect valve for blockage:
◆ Valve horizontal - valve open
♦ Valve tilted by 45° - valve closed
10 - Screw cap
11 - Fuel tank lid unit
□ with rubber bowl
12 - Earth connection
13 - O-ring
☐ Replace after disassembly
14 - Vent valve
☐ to remove, unclip valve at side and take out of filler neck
□ before installing, unscrew screw cap -Pos. 10-
☐ Check <u>⇒ page 316</u> .
15 - Screw
□ 11 Nm
16 - Vent lines Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted.
clipped in place on fuel tanky SKODA AUTO A. S. SKODA AUTO A. S. does not guarantee or accept any liability of the correctness of information in this document. Copyright by SKODA AUTO A. S.
17 - Circlip
18 - Heat shield
19 - Screw
□ 25 Nm
20 - Tensioning strap

pay attention to different lengths



Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

Fitting position of the flange of the fuel delivery unit/the transmitter for the fuel gauge display

Marking on the flange must be aligned with marking on the fuel tank -arrows-.

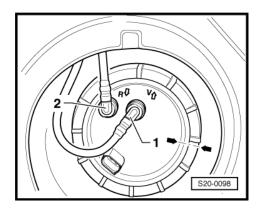
(Black) feed line -1- to connection marked -V-.

(Blue) return-flow line -2- to connection marked -R-.



Note

After installing the fuel delivery unit/the transmitter for the fuel gauge display, check whether the feed line and the return-flow line are clipped onto the fuel tank.



Inspect vent valve

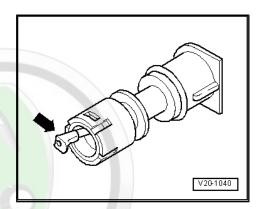
Lever in off position: valve closed

Lever pushed in direction of arrow: valve open.



Note

Before installation of the vent valve unscrew the cap from the filler neck.



2.1.3 Summary of components - Fuel tank with attached parts, Octavia II with front wheel drive, Yeti



Note

- Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.
- Fuel lines are secured with quick-release couplings.
- Fuel hoses must be secured only with spring strap clips. The use of clamp-type or screw-type clips is not allowed.
- Spring-type clip pliers are recommended for installation of mation in this document. Copyright by SKODA AUTO A. S. spring-type clips.



1 - Mounting part

2 - Screw cap

- □ replace the O-ring if it is damaged
- 3 Earth connection

4 - Screw

□ 11 Nm

5 - Wiring

6 - Screw

- ☐ Replace after disassembly
- □ 25 Nm

7 - Fuel tank

- When removing, support with the engine/ gearbox jack e.g. -V.A.G 1383 A- or -VAS 6931-
- □ Removing and installing ⇒ "2.11 Removing and installing the fuel tank", page 347

8 - Circlip

9 - Unbolt bracket for exhaust pipe

10 - Tensioning strap

Check fitting position

11 - Heat shield

12 - Sealing ring

- ☐ Replace after disassembly
- up to be inserted dry into the opening of the fuel tank
- must be moistened on the inside with fuel before assembly of the fuel delivery unit

13 - Fuel pump

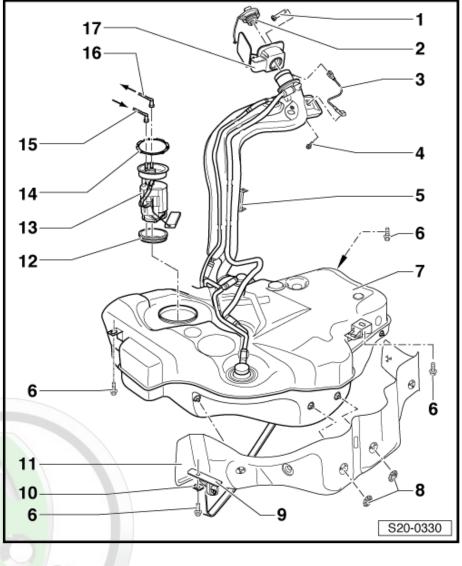
- with sender for fuel gauge display
- □ Removing and installing ⇒ "2.7 Removing and installing fuel delivery unit", page 332
- □ Note correct installation position on the fuel tank ⇒ page 318
- ☐ inspecting fuel pump ⇒ "3 inspecting fuel pump", page 361
- Clean strainer if dirty
- removing and installing the sender for fuel gauge ⇒ "2.8 Removing and installing the fuel gauge sender", page 339

14 - Lock ring

- use wrench T30101 (3087)- for removing and installing
- check correct fitting
- □ 110 Nm

15 - Return-flow line

- from fuel filter
- □ clipped in place on fuel tank
- check correct fitting
- ☐ blue



Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

16 - Feed line

to fuel filter

clipped in place on fuel tank

check correct fitting

□ black

17 - Fuel tank lid unit

with rubber bowl

□ Removing and installing ⇒ Body Work; Rep. gr. 55

Fitting location of the fuel delivery unit

The marking -3- on the flange of the fuel delivery unit points against the direction of travel.

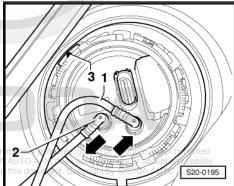


Note

The fuel delivery unit can only be installed in this position.

Blue return-flow line -1-.

Black feed line -2-.





Note

After installing the fuel delivery unit, check whether the feed line and the return-flow line are still clipped in place on the fuel tank.

2.1.4 Summary of components - Fuel tank with attached parts, Octavia II with fourwheel drive, Superb II



Note

- Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.
- Fuel lines are secured with quick-release couplings.
- Fuel hoses must be secured only with spring strap clips. The use of clamp-type or screw-type clips is not allowed.
- Spring-type clip pliers are recommended for installation of spring-type clips.

1 - Fuel tank lid unit

- with rubber bowl
- □ Removing and installing ⇒ Body Work; Rep. gr. 55
- 2 Screw cap
- 3 Mounting part
- 4 Earth connection
 - check for firm seating
- 5 Screw
 - □ 10 Nm

6 - Suction spray pump

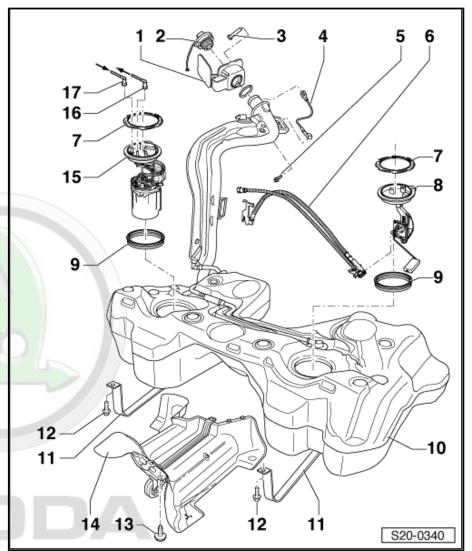
- connected to the fuel gauge sender 2 - G169-
- Removing and installing ⇒ "2.9 Removing and installing suction jet pump", page 343

7 - Lock ring

- use wrench T30101 (3087)- for removing and installing
- check for firm seating
- □ 110 Nm

8 - Fuel gauge sender 2 -G169-

- Note installation position on the fuel tank ⇒ page 320
- Removing and installing 2.8 Removing and in-



stalling the fuel gauge sender ", page 339

9 - Se	ealing ring
	Replace after disassembly
	to be inserted dry into the opening of the fuel tank
	only moisten with fuel from the inside for installing the flange
10 - F	iuel tank
	When removing, support with the engine/gearbox jack e.gV.A.G 1383 A- or -VAS 6931 Removing and installing \Rightarrow "2.11 Removing and installing the fuel tank", page 347
11 - T	ensioning strap
	Check fitting position
12 - S	
	Replace after disassembly
	25 Nm
13 - S	Screw
	23 Nm
14 - F	leat shield
15 - F	uel pump
	with fuel gauge sender -G-
	Removing and installing ⇒ "2.7 Removing and installing fuel delivery unit", page 332
	Note installation position on the fuel tank page 320 AUTO A. S. does not guarantee or accept any liability
	inspecting fuel pump "3 inspecting fuel pump", page 361 "3 inspecting fuel pump", page 361
	Clean strainer if dirty
	Removing and installing the fuel gauge sender -G- ⇒ "2.8 Removing and installing the fuel gauge sender ", page 339
16 - F	eed line
	to fuel filter
	clipped in place on fuel tank
	check for firm seating
	black
17 - F	Return-flow line
	clipped in place on fuel tank

Fitting position of the flange of the fuel delivery unit (with fuel gauge sender -G-) and the flange with fuel gauge sender 2 - G169-

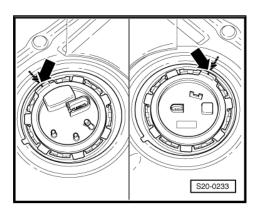
The markings on the flanges must be aligned with markings on the fuel tank -arrows-.



Note

check for firm seating □ blue (blue marking)

The markings on the fuel tank are hardly visible.





2.2 Summary of components - fuel filter

⇒ "2.2.1 Summary of components - fuel filter, Fabia II, Roomster, Rapid NH", page 321

⇒ "2.2.2 Summary of components - fuel filter, Octavia II, Superb II, Yeti", page 322

⇒ "2.2.3 Summary of components - fuel filter, Rapid India", page 324

Summary of components - fuel filter, Fabia II, Roomster, Rapid NH 2.2.1

The fuel flow direction is indicated with arrows on the hoses and on the fuel filter.

1 - Mounting bracket

2 - Fuel filter

- do not interchange connections
- □ Removing and installing ⇒ "2.4 Removing and installing fuel filter", page 326

3 - Intake hose

- from fuel preheating valve
- □ check for firm seating □
- white markingwith respect to t

4 - Intake hose

- ☐ to high pressure pump
- check for firm seating
- white marking

5 - Screw

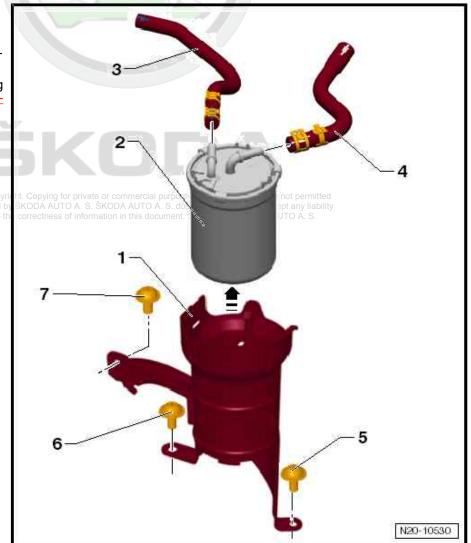
□ 20 Nm

6 - Screw

□ 20 Nm

7 - Screw

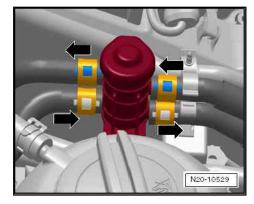
□ 20 Nm





Connecting the fuel preheating valve

Return-flow lines to fuel tank blue or with blue marking Fuel filter supply lines are white or have white markings



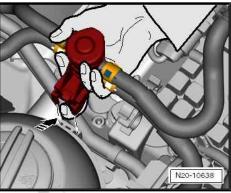
Remove fuel preheating valve

Unlock the catch peg -arrow- with a finger and pull the fuel preheating valve upwards out of the guide of the coolant expansion bottle.

Installing

Push the fuel preheating valve from above into the coolant expansion bottle.

The catch peg must lock in place on the coolant expansion bottle.



2.2.2 Summary of components - fuel filter, Octavia II, Superb II, Yeti



- Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.
- Before disconnecting the fuel hoses, mark assignment to the supports.



1 - Return-flow hose

- to fuel tank
- blue marking and blue inscription
- is connected on the blue line on the separation point in the engine compartment on the right

2 - Intake hose

- from fuel tank
- white marking and white inscription
- is connected on the black line on the separation point in the engine compartment on the right

3 - Fuel filter - top part

- □ raise at the assembly groove using the offset screwdriver - VAS 6543-:
- ⇒ Maintenance ; Booklet Octavia II
- ⇒ Maintenance ; Booklet Superb II
- ⇒ Maintenance ; Booklet Yeti

4 - Screw

□ 5 Nm

5 - Return-flow hose

- of engine
- blue marking and blue inscription

6 - Intake hose

- to additional fuel pump
- white marking and white inscription

7 - Sealing ring

□ Replace after disassembly

8 - Fuel filter element

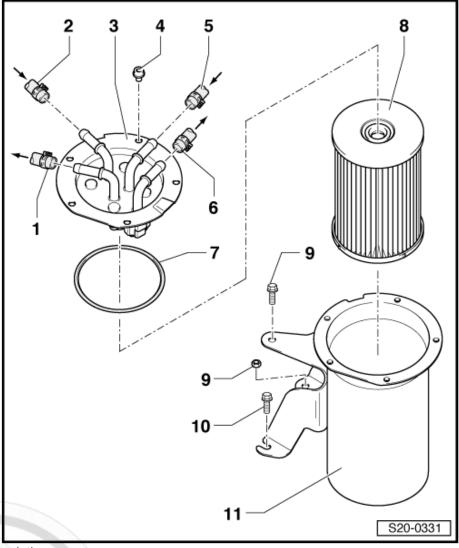
- Pay attention to change intervals:
- ⇒ Maintenance ; Booklet Octavia II
- ⇒ Maintenance ; Booklet Superb II
- ♦ ⇒ Maintenance ; Booklet Yeti

9 - Screw/nut

□ 8 Nm

10 - Screw

- □ to remove fuel filter only slacken screw
- ##11-Fuel filter bottom part with integrated bracket DA AUTO A. S.





2.2.3 Summary of components - fuel filter, Rapid India



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

1 - Fuel filter

- the arrows engraved on the filter identify the fuel inlet and the fuel outlet
- Removing and installing ⇒ "2.4 Removing and installing fuel filter", page 326
- when removing, disconnect the fuel feed line, push the retaining lugs outwards and remove the fuel filter towards the top
- Drainage for vehicles with engine identification characters CWXB, CWXC
 - ⇒ "2.3 Drain fuel filter", page 325
- □ Change intervals:
- ♦ ⇒ Maintenance ; Booklet Rapid Indie

2 - Feed line

- from the fuel delivery unit
- white marking
- detach at the quick coupling

3 - Feed line

- □ to high pressure pump
- white marking
- detach at the quick coupling

4 - O-ring

Replace after disassembly

5 - O-ring

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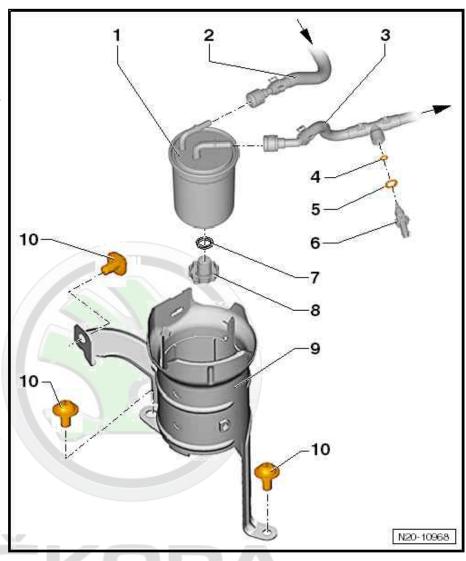
- replace, included in the scope of delivery of the fuel temperature sender G81-
- 6 Fuel temperature transmitter G81-

7 - Seal

- ☐ If present
- □ Replace if damaged.

8 - Water drain cap

- □ If present
- Tighten by hand



9 - Mounting bracket

for fuel filter

10 - Screw

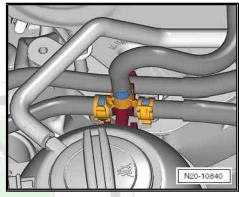
□ 20 Nm

Connect the T-piece in the low-pressure fuel system (6.0 bar)

Return-flow lines to fuel tank blue or with blue marking Fuel filter supply lines are white or have white markings.

Check for firm seating.

Removing

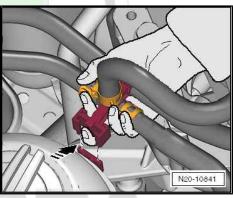


Unlock the catch peg -arrow- with a finger and pull the T-piece upwards out of the guide of the coolant expansion bottle.

Installing

- Push the T-piece from above into the coolant expansion bottle.

The catch peg must lock in place on the coolant expansion bottle.



2.3 Drain fuel filter

"2.3.1 Drain fuel filter for engine with identification characters CWXB, CWXC, Rapid India", page 325

2.3.1 Drain fuel filter for engine with identification characters CWXB, CWXC, Rapid India

Special tools and workshop equipment required

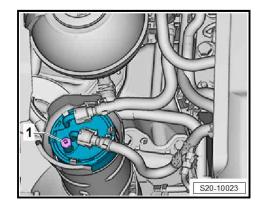
- Fuel-resistant container
- Transparent hose





Note

- Safety precautions when working on the fuel supply system *⇒ "2 Safety instructions", page 3* .
- Observe rules for cleanliness *⇒ "3.1 Rules of cleanliness", page 7* .
- Make sure no diesel fuel runs onto the coolant hoses. If necessary clean the hoses immediately!
- Observe the disposal instructions!
- The drain valve is not present in all versions.
- Insert the transparent hose with a drain container onto the drain plug -1-.
- Start the engine.
- Carefully undo the drain plug -1- by ¹/₄ turns.
- Drain off approx. 0.3 to 0.4 litres of fluid. As soon as clean diesel fuel comes out, close the drain plug -1-.
- Switch off engine and remove the hose.



2.4 Removing and installing fuel filter

⇒ "2.4.1 Removing and installing the fuel filter, Fabia II, Roomster, Rapid NH", page 326

⇒ "2.4.2 Removing and installing fuel filter, Rapid India", page 327

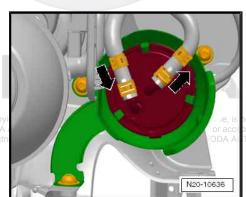
2.4.1 Removing and installing the fuel filter, Fabia II, Roomster, Rapid NH

Removing



Note

- Safety precautions when working on the fuel supply system *⇒ "2 Safety instructions", page 3* .
- Observe rules for cleanliness *⇒ "3.1 Rules of cleanliness", page 7* .
- Release spring strap clips and disconnect fuel hoses from fuel filter.







Press the retaining lugs -3- outwards, and remove the fuel filter -1- by lifting it upwards.

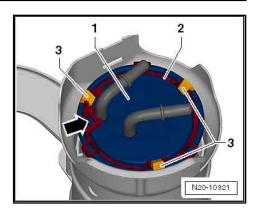
Installing

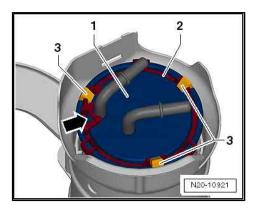
Installation is carried out in the reverse order. Pay attention to the following:

- Lay the fuel hoses avoiding any kinks.
- Make sure the fuel hoses fit tightly.
- Do not mix-up the feed line and the return-flow line (the returnflow line is blue or has a blue marking, the feed line is white or has a white marking).
- Clip the fuel and coolant hoses into the mountings again.
- Correctly plug locating lug -2- with guide -arrow- onto the connections -Pos. 3-
 - ⇒ "2.2.1 Summary of components fuel filter, Fabia II, Roomster, Rapid NH", page 321 of the fuel filter -1-.
- Clip retaining ring -2- onto the fuel filter -1-.
- Press the fuel filter -1- into the bracket as far as it goes.

Ensure that the retaining lugs -3- lock into place in the provided recesses of the retainer ring -2-.

Venting air from the fuel filter \Rightarrow "2.5 Venting air from the fuel filter", page 328.

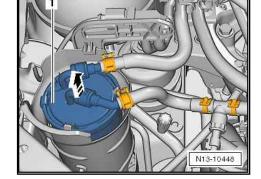




2.4.2 Removing and installing fuel filter, Rapid India

Removing

- Disconnect the fuel feed lines at the guick couplings from the fuel filter -1-. To do so, push the quick couplings onto the nozzles, press in the securing elements (hold pressed) and detach the quick couplings. Unlock the quick coupling and disconnect ⇒ "2.10 Separating push-on couplings", page 343.
- Push the catch pegs up and remove the fuel filter towards the top.

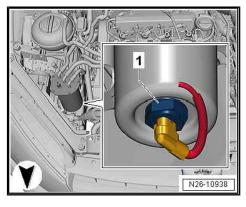


Equipment variant with transmitter for moisture trap - G63-: disconnect plug connection from water level transmitter -1-.

Installing

Installation is carried out in the reverse order. Pay attention to the following:

- Pay attention to the fitting position of the fuel filter. The arrows engraved on the filter identify the fuel inlet and the fuel outlet.
- Lay the fuel hoses avoiding any kinks.
- Make sure the quick couplings fit tightly. Check that it is correctly locked in place by pulling on it.
- Filling and bleeding the fuel system ⇒ "1.3 Filling/bleeding the fuel system", page 429



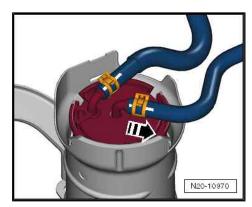


2.5 Venting air from the fuel filter

⇒ "2.5.1 Ventilating fuel filter, Fabia II, Roomster, Rapid NH", page 328

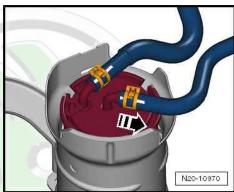
2.5.1 Ventilating fuel filter, Fabia II, Roomster, Rapid NH

 A fuel filter without quick couplings: this filter must be bled (fuel system 0.5 bar)

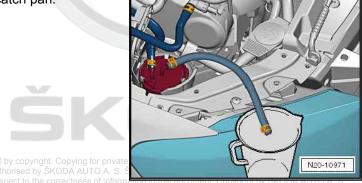


The fuel hoses are connected directly to the fuel filter.

 After changing the filter do not reconnect the fuel hose to the high pressure pump.



Connect a suitable hose and guide it into a catch pan.



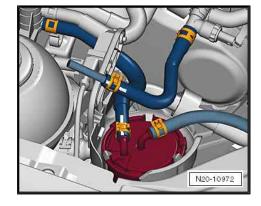
- Lock the fuel hose onto the high pressure pump seal.
- · Vehicle must be refuelled.
- Connect ⇒ Vehicle diagnostic tester and switch on ignition.
- Carry out the function "test fuel pump".



Note

The fuel pump is activated for 30 seconds.

 Then connect the fuel line to the high pressure pump on the fuel filter.





2.6 Extract fuel from the fuel tank

⇒ "2.6.1 Suctioning fuel off of the fuel tank, Fabia II, Roomster, Rapid India, Rapid NH", page 329

⇒ "2.6.2 Suction off fuel from the fuel tank, Octavia II, Superb II, Yeti", page 330

2.6.1 Suctioning fuel off of the fuel tank, Fabia II, Roomster, Rapid India, Rapid NH

Special tools and workshop equipment required

- ♦ Hose adapter , e. g. -V.A.G 1318-16-
- Adapter set , e.g. -V.A.G 1318/17-
- Auxiliary measuring set, , e. g. -V.A.G 1594 C-
- 12 V battery
- Fuel tank



Note

If there are functional problems of the fuel delivery unit suction off fuel with fuel extraction device, e.g. -VAS 5190- .

Work procedure



Note

Observe the regulations concerning cleanliness when working on the fuel supply/injection system *⇒ "3.1 Rules of cleanliness", page 7* .

Vehicles Fabia II

Position right rear seat vertically ⇒ Body Work; Rep. gr. 72.

Vehicles Roomster

Fold back the middle and rear seat and position vertically ⇒ Body Work; Rep. gr. 72.

Vehicles Rapid India, Rapid NH

Removing rear seat bench ⇒ Body Work; Rep. gr. 72.

Continued for all vehicles

- Remove the cover of the fuel delivery unit under the floor cov-skoda AUTO A.S. ering.
- Disconnect the plug for the fuel delivery unit.



WARNING

Fuel feed line is pressurised. Place a clean cleaning cloth around the connection point before detaching hose connections. Reduce pressure by carefully releasing the connection point.

Pull off the fuel feed line and gather residual fuel in a cloth. Unlock the quick coupling and disconnect ⇒ "2.10 Separating push-on couplings", page 343

Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- Connect adapters -V.A.G 1318/16- and -V.A.G 1318/17- and fit this "drain pipe" onto the feed support of the fuel delivery unit.
- Hold the "drain pipe" in a suitable catch pan for fuel.
- Using auxiliary cables -A- from the measuring tool set V.A.G 1594/C- connect up the battery through contacts of the fuel pump as follows:

Battery positive terminal (+) to contact -1- of the fuel pump.

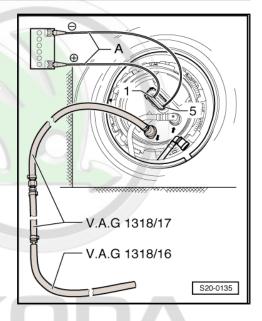
Battery negative terminal (-) to contact -5- of fuel pump.

The fuel pump runs and suctions off fuel.



Caution

In order to avoid fuel overflow due to the fuel tank not being sufficiently large enough, the fuel pump must not run unattended.



2.6.2 Suction off fuel from the fuel tank, Octavia II, Superb II, Yeti Protected by Coopyright, Coopyright

Special tools and workshop equipment required by SKODA AUTO A. S. ŠKODA AU

- opecial tools and workshop equipment require
- ♦ Hose adapter , e. g. -V.A.G 1318/16-
- ◆ Adapter , e.g. -V.A.G 1318/17-
- ♦ Auxiliary measuring set, , e. g. -V.A.G 1594 C-
- ◆ Battery
- ◆ Fuel tank



Note

If the fuel pump is defective, suction off fuel using a fuel suction device, e.g. -VAS 5190-.

Work procedure



Note

- ♦ Safety precautions when working on the fuel supply system ⇒ "2 Safety instructions", page 3.
- Observe rules for cleanliness
 ⇒ "3.1 Rules of cleanliness", page 7
- Switch off ignition and pull out ignition key.

For the vehicles Octavia II, Superb II

Removing rear seat bench ⇒ Body Work; Rep. gr. 72.

For the vehicles Yeti

- Remove rear seat bench with brackets ⇒ Body Work; Rep. gr. 72.
- Remove floor covering under the rear seats.

Continued for all vehicles

Unclip retaining catches -arrows- of cover for the fuel delivery unit and remove cover.



Note

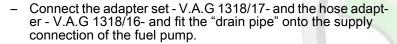
For vehicles with auxiliary heating, the plug connection for the dosing pump - V54- must be disconnected additionally.

Disconnect connector -1- and black feed line -2-.



Note

- On vehicles with four-wheel drive, the position of the plugs and the fuel lines is different.
- Press in the securing ring in order to unlock the line.



- Hold the "drain pipe" in a suitable catch pan for fuel.
- Connect the battery and the contacts of the fuel pump with auxiliary cables -A- from the auxiliary measuring set as follows:

Battery positive terminal (+) to contact -1- of the fuel pump.

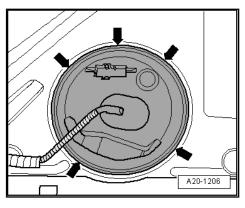
Battery negative terminal (-) to contact -5- of fuel pump.

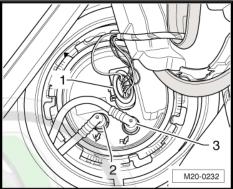
The fuel pump runs and suctions off fuel.

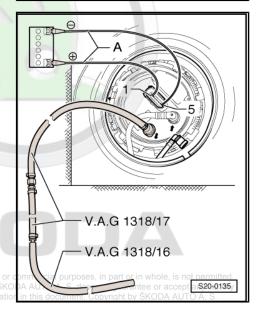


Caution

In order to prevent an overflow of fuel in case of a too small fuel tank, the fuel pump must not run unattended.







2.7 Removing and installing fuel delivery unit

⇒ "2.7.1 Removing and installing fuel delivery unit, Fabia II, Roomster, Rapid India, Rapid NH", page 332

⇒ "2.7.2 Removing and installing fuel delivery unit, Octavia II with front-wheel drive, Yeti", page 334

⇒ "2.7.3 Removing and installing fuel delivery unit, Octavia II with four-wheel drive, Superb II", page 336

2.7.1 Removing and installing fuel delivery unit, Fabia II, Roomster, Rapid India, Rapid NH

Special tools and workshop equipment required

- ♦ Wrench for union nut MP 1-227 (3217)-
- Fuel extraction device, e.g. -VAS 5190-

Conditions

- The fuel tank must not be more than 3/4 full.
- Ignition is switched off and ignition key is withdrawn.

Removing



Note

- If necessary drain the fuel tank "2.6 Extract fuel from the fuel tank", page 329 to the co
- Observe the safety instructions before starting fitting work <u>"2 Safety instructions", page 3</u> .
- Observe rules for cleanliness *⇒ "3.1 Rules of cleanliness", page 7* .

Vehicles Fabia II

Position right rear seat vertically ⇒ Body Work; Rep. gr. 72.

Vehicles Roomster

Fold back the middle and rear seat and position vertically ⇒ Body Work; Rep. gr. 72.

Vehicles Rapid India, Rapid NH

Removing rear seat bench ⇒ Body Work; Rep. gr. 72.

Continued for all vehicles

- Remove the cover of the fuel delivery unit under the floor cov-
- Disconnect the plug for the fuel delivery unit.



WARNING

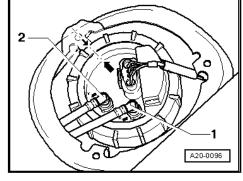
The fuel system is under pressure! Place a clean cleaning cloth around the connection point before detaching hose connections. Then reduce the pressure by carefully removing the hose.



Note

Press together the securing ring on the rear side of the angular connection in order to unlock the fuel lines.

Remove feed line (black) -2- and return-flow line (blue) -1from the flange of the delivery unit, to do so press together the release buttons. Unlock the quick coupling and disconnect ⇒ "2.10 Separating push-on couplings", page 343



- Unscrew union nut with wrench for union nut MP 1-227 (3217)-.
- Pull the fuel delivery unit and the sealing ring out of the opening of the fuel tank.

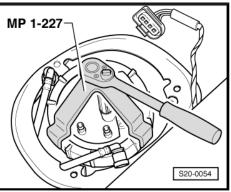


Note

The old fuel pump must be emptied before disposing of it, if it should be replaced.

Installing

The fuel delivery unit is installed in the reverse order. Pay attention to the following:







Note

- Do not bend the sender for fuel gauge display when installing it.
- Only moisten the sealing ring of the flange with fuel from inside for assembly.
- Observe installation position of flange of fuel delivery unit.
 Marking on the flange must be aligned with marking on the fuel
 tank -arrows-.
- ♦ Do not interchange feed line and return-flow line.
- ♦ Make sure the fuel lines fit tightly.
- After installing the fuel delivery unit, check whether the feed, return-flow and vent lines are clipped in place on the fuel tank.

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- ◆ Union nut for fuel pump
 ⇒ "2.1.2 Summary of components Fuel tank with attached parts, Roomster, Rapid India, Rapid NH", page 314.
- ◆ Union nut for fuel pump ⇒ "2.1.1 Summary of components - fuel tank with attached parts, Fabia II", page 311.

2.7.2 Removing and installing fuel delivery unit, Octavia II with front-wheel drive, Yeti

Special tools and workshop equipment required

♦ Key - T30101 (3087)-

Removing

The fuel tank must not be more than ³/₄ full.

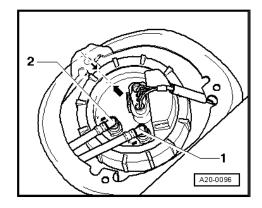


Note

- If necessary drain the fuel tank
 ⇒ "2.6 Extract fuel from the fuel tank", page 329
- ♦ Safety precautions when working on the fuel supply system ⇒ "2 Safety instructions", page 3.
- ◆ Observe rules for cleanliness
 ⇒ "3.1 Rules of cleanliness", page 7
- Switch off ignition and pull out ignition key.

For the vehicles Octavia II

Removing rear seat bench ⇒ Body Work; Rep. gr. 72.



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For the vehicles Yeti

- Remove rear seat bench with brackets ⇒ Body Work; Rep. gr. 72.
- Remove floor covering under the rear seats.

Continued for all vehicles

Unclip retaining catches -arrows- of cover for the fuel delivery unit and remove cover.



Note

For vehicles with auxiliary heating, the plug connection for the dosing pump - V54- must be disconnected additionally.

Disconnect plug -1-, black feed line -2- and blue return line



Note

- Press in the securing ring in order to unlock the line.
- For vehicles with auxiliary heating the suction line for the dosing pump - V54- must be pulled out additionally (open lower clamp).

Open lock ring with the wrench - T30101 (3087)-.



Note

When installing, ensure that the float arm of the sender for fuel gauge - G- is not bent.

Pull the fuel delivery unit and the sealing ring out of the opening of the fuel tank.

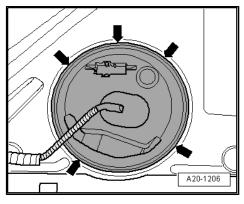


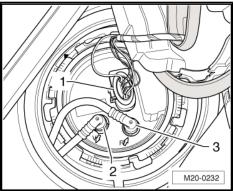
Note

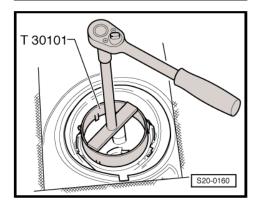
You must empty the old fuel delivery unit before disposing of it if you wish to replace it.

Installing

The installation of the fuel delivery unit occurs in the reverse order. However, pay attention to the following:





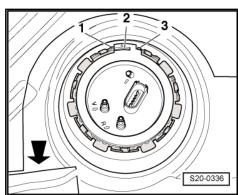






Note

- Insert new dry sealing ring into the opening of the fuel tank.
- The sealing ring must only be moistened on the inside with fuel before assembly of the fuel delivery unit.
- Do not bend the sender for fuel gauge display when installing
- Observe the fitting location of the fuel delivery unit. The marking -3- on the flange must point against the direction of travel. The fuel delivery unit can only be installed in this position.
- Do not interchange feed line and return-flow line.
- Make sure the line connections fit tightly.
- After installing the fuel delivery unit, check whether the feed line and the return-flow line are still clipped in place on the fuel tank.



Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

Fuel pump lock ring ⇒ "2.1.3 Summary of components - Fuel tank with attached parts, Octavia II with front wheel drive, Yeti", page 316.

2.7.3 Removing and installing fuel delivery unit, Octavia II with four-wheel drive, Superb II

Special tools and workshop equipment required

- Key T30101 (3087)-
- Protective gloves

Condition

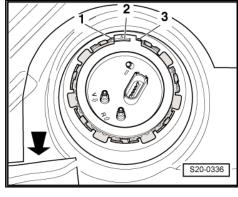
The fuel tank must not be more than 1/3 full.

Removing



Note

- If necessary drain the fuel tank "2.6 Extract fuel from the fuel tank", page 329
- Safety precautions when working on the fuel supply system *⇒ "2 Safety instructions", page 3* .
- Observe the regulations concerning cleanliness when working on the fuel supply/injection system *⇒ "3.1 Rules of cleanliness", page 7* .
- Switch off ignition and pull out ignition key.
- Removing rear seat bench ⇒ Body Work; Repagr. 072 s
- Remove the cover from the fuel delivery unit. the re-





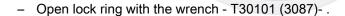
Note

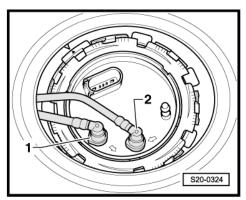
- On vehicles with auxiliary heating, the plug connection for the dosing pump - V54- must also be disconnected.
- Two types of fuel delivery units are installed in the vehicles, which can be recognized on the different flanges.
- Disconnect the plug as well as the black fuel feed line -1- and the blue fuel return-flow line -2- from the flange.



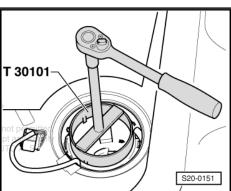
Note

- Press in the securing ring in order to unlock the line.
- For vehicles with auxiliary heating the suction hose for the dosing pump - V54- must be pulled out additionally (open lower clamp).

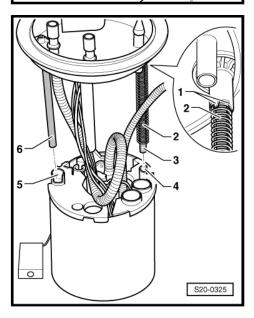








- Slightly raise the closing flange and check if the spring -2- is still fastened on the flange -1-.
 - If the spring -2- lies loose on the guide pipe -3-, hold the spring with the fingers when removing the closing flange.
- Pull closing flange and gasket ring for fuel pump out of the opening of the fuel tank and place to the side with the connected lines.





Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- Through the opening of the fuel tank, disconnect the fuel line -1- to the vacuum pump by pressing the release button.
- Remove the fuel delivery line -2- from the fuel delivery unit.



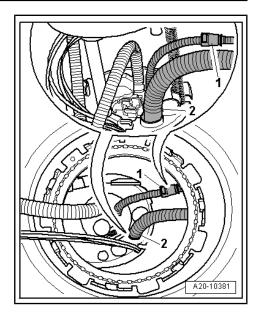
Note

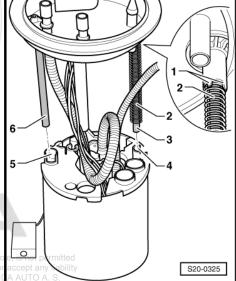
- You must wear protective gloves for removing the fuel delivery
- Remove fuel pump from the fuel tank so that the electric cables and fuel hoses are not damaged and the float arm of the sender for fuel gauge display - G- is not bent.
- You must empty the old fuel delivery unit before disposing of it if you wish to replace it.
- Pull the fuel delivery unit out of the opening of the fuel tank.

Installing

Installation occurs in reverse order to removal. Pay attention to the following:

- Insert the fuel delivery unit into the fuel tank with the closing flange placed to the side. Do not bend the float arm of the fuel gauge sender unit - G- while doing so.
- Install the fuel delivery line as well as the fuel line.
- Insert the new dry gasket ring for the flange into the opening of the fuel tank and moisten only from the inside with fuel for installing the closing flange.
- The spring -2- must be fastened to the retaining lugs -1- of the closing flange.
- First of all guide the guide pipe -3- into the guide bore -4-.
- Then lower the closing flange in such a way that the guide pipe -6- locks into the guide bore -5-.





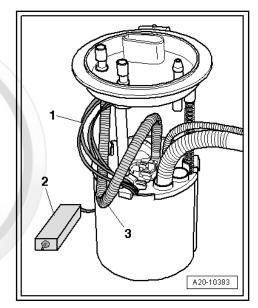




Note

Pay attention that the electrical cables -1- and the fuel feed line -3- are routed according to the illustration and the float arm -2- is not blocked.

Press the closing flange down and bring it into the installation position.



Further information:

- Observe the fitting location of the fuel delivery unit. The peg -2- at the closing flange must be located between the pegs -1- and -3-. The -arrow- shows the direction of travel.
- Do not interchange feed line and return-flow line.
- Make sure the fuel lines fit tightly ectness of information in this document. Copyright
- After installing the fuel delivery unit, check whether the feed line and the return-flow line are clipped correctly in place on the fuel tank.

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

Fuel pump lock ring "2.1.4 Summary of components - Fuel tank with attached parts, Octavia II with four-wheel drive, Superb II", page 318.

2.8 Removing and installing the fuel gauge sender

⇒ "2.8.1 Removing and installing fuel gauge sender G , Fabia II, Roomster, Rapid India, Rapid NH", page 339

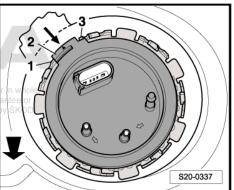
⇒ "2.8.2 Removing and installing fuel gauge sender G , Octavia II, Superb II, Yeti", page 340

⇒ "2.8.3 Removing and installing fuel gauge sender 2 G169 , Octavia II with four-wheel drive, Superb II", page 341

2.8.1 Removing and installing fuel gauge sender - G-, Fabia II, Roomster, Rapid India, Rapid NH

Removing

Remove fuel delivery unit ⇒ "2.7 Removing and installing fuel delivery unit", page 332.



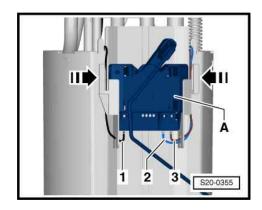
Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ...

1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- Unlatch and disconnect the plug of the lines -1- (black), -2-(blue) and -3- (brown).
- Press together the securing tabs -arrows- and pull the fuel gauge sender - G- upwards and out.

Installing

- Insert the fuel gauge sender G- into the guides on the fuel delivery unit and press down until it engages.
- Connect the lines -1-, -2- and -3- and fix in the holding slots of the fuel delivery unit.
- Install fuel delivery unit ⇒ "2.7 Removing and installing fuel delivery unit", page 332



2.8.2 Removing and installing fuel gauge sender - G-, Octavia II, Superb II, Yeti

Removing

Remove fuel delivery unit ⇒ "2.7 Removing and installing fuel delivery unit", page 332

Fuel gauge sender - G- type 1

- Unlatch and disconnect lines -3- and -4-.
- Raise securing tabs -1- and -2- with a screwdriver and remove the fuel gauge sender - - downwards -arrow-.

Installing

- Insert the fuel gauge sender G- into the guides on the fuel delivery unit and press upwards until it engages.
- Connect plug of lines and check for correct position of the sender.

Fuel gauge sender - G- type 2

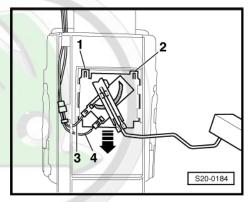
- Unlatch and disconnect the plug connection of the lines -1-(brown), -2- (blue) and -3- (black).
- Raise securing tabs -4- and -5- with a screwdriver and remove the fuel gauge sender - - downwards -arrow-.

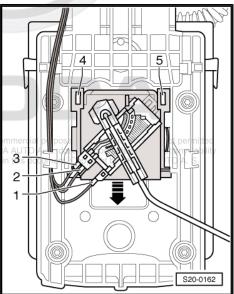
Installing

- Insert the fuel gauge sender G- into the guides on the fuel delivery unit and press upwards until it engages.
- Connect the wiring and check correct installation of the plug.

Fuel gauge sender - G- type 3

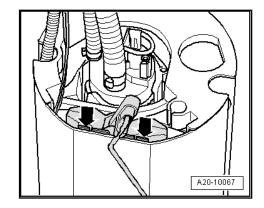
Remove fuel delivery unit ⇒ "2.7 Removing and installing fuel delivery unit", page 332.







Unlock the securing tabs -arrows- using a screwdriver and pull the fuel gauge sender - G- up and out.



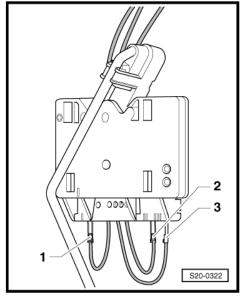
Unlatch and disconnect the plug connection of the lines -1-(brown), -2- (blue) and -3- (black).

Installing

- Connect the wiring and check correct installation of the plug.
- Insert the fuel gauge sender G- into the guides on the fuel delivery unit and press down until it engages.

Continued for all vehicles

Install fuel delivery unit ⇒ "2.7 Removing and installing fuel delivery unit", page 332



2.8.3 Removing and installing fuel gauge sender 2 - G169-, Octavia II with fourwheel drive, Superb II

Protected iThe fuel tank must not be more thans 1/2 full in whole, is not permitted



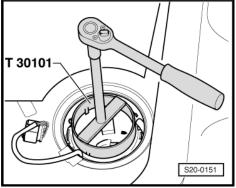
Note

- If necessary drain the fuel tank *⇒ "2.6 Extract fuel from the fuel tank", page 329* .
- Safety precautions when working on the fuel supply system ⇒ "2 Safety instructions", page 3.
- ♦ Observe the regulations concerning cleanliness when working on the fuel supply/injection system ⇒ "3.1 Rules of cleanliness", page 7.
- Make sure that the fuel gauge sender is not bent.

Removing

- Switch off ignition and pull out ignition key.
- Removing rear seat bench ⇒ Body Work; Rep. gr. 72.
- Remove left cover and disconnect plug from fuel gauge sender 2 - G169- .

Open lock ring with the wrench - T30101 (3087)- .



Slightly pull fuel gauge sender 2 - G169- out of the opening of the fuel tank, release catches -arrows- and disconnect suction jet pump.

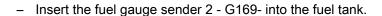
Installing

Installation occurs in reverse order to removal. Pay attention to the following:



Caution

When installing do not bend the float arm of the fuel gauge sender 2 - G169- .



- Fit the suction jet pump in the fuel tank onto the fuel gauge sender 2 - G169- and push it in until the catches -arrows- latch into position.
- Insert new dry sealing ring for the flange into the opening of the fuel tank and only moisten the inside (towards the flange) with fuel.
- Check the fitting position ⇒ page 320 and insert the flange of the fuel gauge sender 2 - G169- into the opening of the fuel
- Check correct positioning of sealing ring.
- Tighten the lock ring with socket wrench T30101 (3087)-.
- Fit on plug and install left cover.

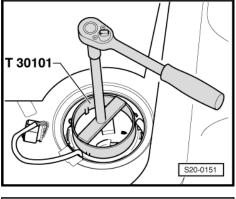
Tightening torques - summaries of components

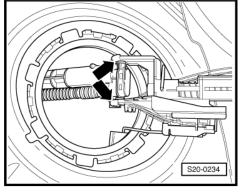


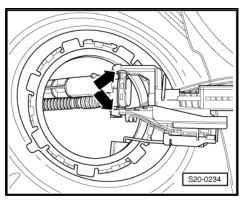
Note

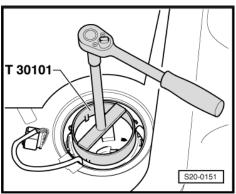
Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

⇒ "2.1.4 Summary of components - Fuel tank with attached parts, Octavia II with four-wheel drive, Superb II", page 318











2.9 Removing and installing suction jet

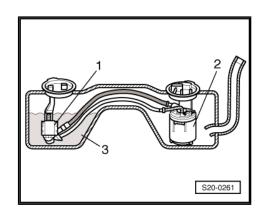
⇒ "2.9.1 Removing and installing suction jet pump, Octavia II with four-wheel drive, Superb II", page 343

2.9.1 Removing and installing suction jet pump, Octavia II with four-wheel drive, Superb II



Note

- The fuel tank is subdivided in a left and a right chamber. In order to pump the fuel out of the left chamber -3- of the fuel tank into the right chamber to the housing of the fuel delivery unit -2-, a suction jet pump -1- is required.
- The version of the fuel tank requires that the fuel is pumped from the area of the fuel gauge sender 2 - G169- with a suction jet pump to the fuel pump.
- A check is only to be carried out, if the engine stops because of fuel shortage, although the fuel gauge still indicates a fuel tank which is 1/4 full.



Work procedure

- Remove fuel delivery unit ⇒ "2.7 Removing and installing fuel delivery unit", page 332
- Remove fuel gauge sender 2 G169-<u>"2.8 Removing and installing the fuel gauge sender", page</u>
- Now the suction jet pump can be pulled out from the side of the fuel gauge sender 2 - G169- (on left in direction of travel).
- Check if the fuel lines are firmly connected to the suction jet pump and are not damaged.
- Check the suction jet pump additionally for possible contamination.

Separating push-on couplings record any liability

Special tools and workshop equipment required

♦ Lever - T10468-

Assign quick couplings



Note

Quick couplings of fuel lines, vacuum and ventilation lines are colour marked. Either the colour point at the quick coupling or the release button has the corresponding colour.

Push-on coupling	Colour coding on the quick coupling
fuel feed line	Black
Fuel return-flow line	Blue
Breather	White, beige
Vacuum	Green





WARNING

Fuel feed line is pressurised. Wear safety goggles and safety clothing, in order to avoid injuries and skin contact with fuel. Place cleaning cloths around the connection point before detaching hose connections. Reduce pressure by carefully removing the hose.

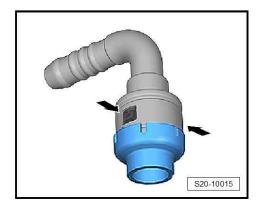
Version 1



Note

When the push-fit coupling is fitted with a plastic circlip, leave it inserted when removing and installing the quick release.

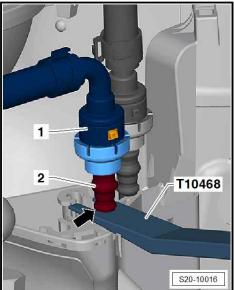
Quick coupling with release buttons -arrows- on right and left.



The separation point -1- in the engine compartment must be held in place.

 Insert the lever - T10468- between the heat shield and the stop -arrow- of the fuel line -2- and hold.

Continued for all separation points.





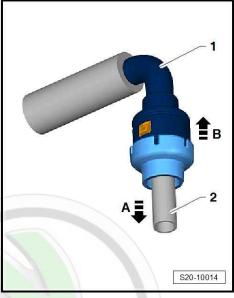


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- Press the quick coupling -1- in direction of arrow -A-.
- Press the release buttons and remove the quick coupling -1from the fuel line -2- in direction of the arrow -B-.

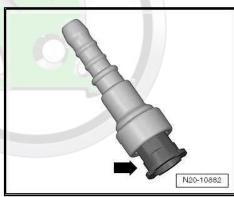
Pay attention to the assignment of the colours when installing ⇒ page 343 .

Check the quick couplings for firm seating by pulling in the opposite direction!



Version 2

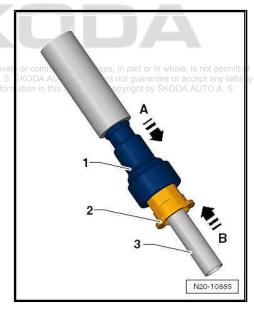
Push-on coupling with pull-release mechanism -arrow-.



- Press the quick coupling -1- in direction of arrow -A-.
- Pull pull-release mechanism -2- in direction of arrow -B-.
- Remove the guick coupling -1- from the fuel line -3- in direction of the arrow -B-.

Pay attention to the assignment of the colours when installing ⇒ page 343 .

Check the quick couplings for firm seating by pulling in the opposite direction!





Version 3

Quick coupling with front button -arrow-.

Press release button -arrow- and pull off quick couplings.

Pay attention to the assignment of the colours when installing ⇒ page 343 .

Check the quick couplings for firm seating by pulling in the opposite direction!



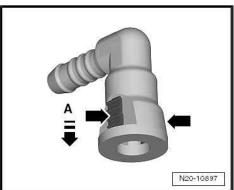
Version 4

Quick coupling with release buttons -arrows- on right and left.

- Press the quick coupling in direction of arrow -A-.
- Press release buttons -arrow- and detach quick coupling.

Pay attention to the assignment of the colours when installing <u>⇒ page 343</u> .

Check the quick couplings for firm seating by pulling in the opposite direction!



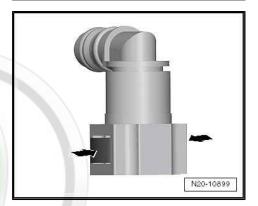
Version 5

Quick coupling with release buttons -arrows- on right and left.

- Press release buttons -arrow- and detach quick coupling.

Pay attention to the assignment of the colours when installing ⇒ page 343 .

Check the quick couplings for firm seating by pulling in the opposite direction!



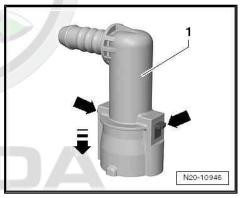
Version 6

Quick coupling with release buttons -arrows- on right and left.

- Press push-on coupling -1- in -direction of arrow- and hold pressed.
- Press release buttons -arrow- and detach guick coupling.

Pay attention to the assignment of the colours when installing ⇒ page 343 .

Check the guick couplings for firm seating by pulling in the opposite direction!





Version 7

Quick coupling -1- with release buttons -2- right and left.

Opening

- Press quick coupling -1- in direction of arrow -A- and hold pressed.
- Press the release buttons -2- in direction of arrow -B- and remove the quick coupling -1-.

Pay attention to the assignment of the colours when installing ⇒ page 343 .

The quick coupling must be heard to click into place.

Check the quick couplings for firm seating by pulling in the opposite direction!

2.11 Removing and installing the fuel tank

⇒ "2.11.1 Removing and installing fuel tank, Fabia II, Roomster, Rapid India, Rapid NH", page 347

⇒ "2.11.2 Removing and installing fuel tank, Octavia II with frontwheel drive, Yeti", page 350

⇒ "2.11.3 Removing and installing fuel tank, Octavia II with fourwheel drive, Superb II", page 353

2.11.1 Removing and installing fuel tank, Fabia II, Roomster, Rapid India, Rapid NH

Special tools and workshop equipment required

◆ Engine and gearbox jack, e.g. -V.A.G 1383 A- or -VAS 6931-

Conditions

- Ignition is switched off and ignition key is withdrawn.
- The fuel tank must not be more than 1/4 full.

Removing



Note

- Observe the safety instructions before starting fitting work *⇒ "2 Safety instructions", page 3* .
- Observe rules for cleanliness *⇒ "3.1 Rules of cleanliness", page 7* .
- Unscrew the cap from the filler neck.
- Close the opening of the fuel filler neck with a clean foam piece, so that no dirt can penetrate.

Vehicles Fabia II

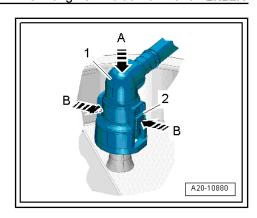
Position right rear seat vertically ⇒ Body Work; Rep. gr. 72.

Vehicles Roomster

Fold back the middle and rear seat and position vertically ⇒ Body Work; Rep. gr. 72.

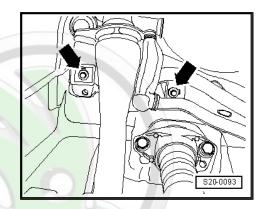
Vehicles Rapid India, Rapid NH

Removing rear seat bench ⇒ Body Work; Rep. gr. 72.



Continued for all vehicles

- Remove the cover of the fuel delivery unit under the floor covering.
- Disconnect the plug for the fuel delivery unit.
- If necessary drain the fuel tank ⇒ "2.6 Extract fuel from the fuel tank", page 329
- Removing rear axle ⇒ Chassis; Rep. gr. 42.
- Remove the rear right wheelhouse liner ⇒ Body Work; Rep. gr. 66.
- Remove rear part of exhaust system ⇒ "1.2 Summary of components - Middle and rear part of the exhaust system", page 506.
- Unscrew bolts on filler neck -arrows-.



Disconnect feed line (black) -1- and return-flow line (blue) -2from the fuel tank, to do so press the release buttons. Unlock the quick coupling and disconnect 2.10 Separating push-on couplings", page 343.

For vehicles Roomster, Rapid India, Rapid NH

- Remove tensioning strap above the heat protection plate.
- Remove the heat shield cover of the fuel tank.

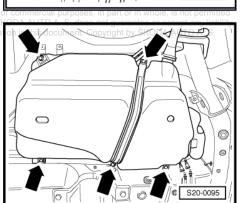
Continued for all vehicles

Support fuel tank with engine/gearbox jack -V.A.G 1383 A- or -VAS 6931- .



For vehicles Fabia II

Unscrew tensioning strap and fixing screws -arrows-.



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S20-0094



For vehicles Roomster, Rapid India, Rapid NH

- Unscrew the remaining tensioning strap and fixing screw -arrows-.

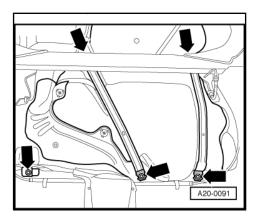
Continued for all vehicles

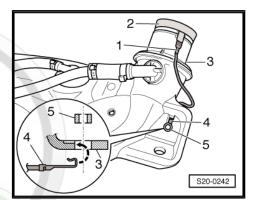
Pull the filler neck out of the rubber bowl and swivel the fuel tank downwards.

Installing

Installation is carried out in the reverse order. Pay attention to the following:

- Check both earth connections for corrosion, if necessary remove corrosion.
- Check fitting position of the earth lead -1-.
- The plug -1- must be firmly fitted to the metal plate ring -2-.
- The contact tab -4- must be hung on the fuel tank -3- and secured with the spacer bush -5-.







For vehicles Rapid NH



Note

- Make sure that the heat shield for fuel tank -1- does not collide with the tunnel-heat shield -2- when installing the fuel tank.
- ◆ The tunnel-heat shield -2- must slightly overlap with the fuel tank tunnel-heat shield in direction of travel -C-.

Continued for all vehicles

- Install the fuel lines without kinks.
- Do not mix-up the feed line and the return-flow line (the return-flow line is blue, the feed line is black).
- Make sure the connections fit tightly.
- ◆ Check feed line and return-flow line at fuel tank for firm seating.

Before starting the engine, the fuel system must be bled as follows:

 Switch on the ignition and only switch it off once the fuel pump has come to a standstill. Repeat this procedure at least »5 times«.

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- ♦ Summary of components ⇒ "2.1.1 Summary of components - fuel tank with attached parts, Fabia II", page 311.
- ◆ Summary of components ⇒ "2.1.2 Summary of components - Fuel tank with attached parts, Roomster, Rapid India, Rapid NH", page 314.

2.11.2 Removing and installing fuel tank, Octavia II with front-wheel drive, Yeti

Special tools and workshop equipment required

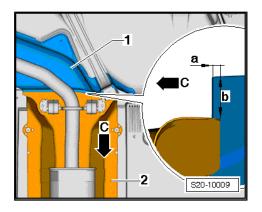
◆ Engine and gearbox jack, e.g. -V.A.G 1383 A- or -VAS 6931-

Removing



Note

- ◆ Drain the fuel tank
 ⇒ "2.6 Extract fuel from the fuel tank", page 329.
- ◆ Safety precautions when working on the fuel supply system ⇒ "2 Safety instructions", page 3.
- ◆ Observe the regulations concerning cleanliness when working on the fuel supply/injection system
 ⇒ "3.1 Rules of cleanliness", page 7.
- Switch off ignition and pull out ignition: key. SKODA AUTO A. S. SKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by SKODA AUTO A. S.



For the vehicles Octavia II

- Removing rear seat bench ⇒ Body Work; Rep. gr. 72.

For the vehicles Yeti

- Remove rear seat bench with brackets ⇒ Body Work; Rep. gr. 72.
- Remove floor covering under the rear seats.

Continued for all vehicles

Unclip retaining catches -arrows- of cover for the fuel delivery unit and remove cover.

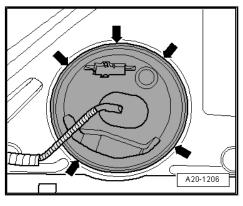


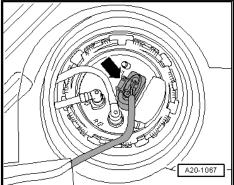
Note

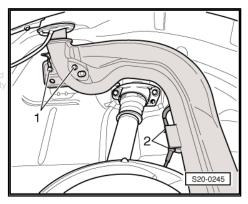
On vehicles with auxiliary heating, the plug connection for the dosing pump - V54- must also be disconnected.



- Unscrew right rear wheel ⇒ Chassis; Rep. gr. 44.
- Open the fuel tank cap and clean around the fuel filler neck.
- Unscrew the cap from the fuel filler neck.
- Close the opening of the fuel filler neck with a clean foam piece, so that no dirt can penetrate.
- Remove the rear right wheelhouse liner ⇒ Body Work; Rep. gr. 66.
- Remove screws -1- for filler neck on the body.
- Unclip the wiring loom from the holder -2- at the top and bottom of the filler neck.



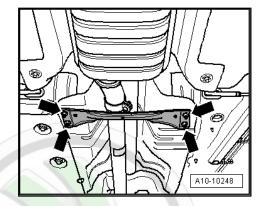






Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- Remove rear tunnel bridge -arrows-.
- Slacken front clamping sleeve at exhaust sleeve and push clamping sleeve to the rear.
- Slacken all the suspensions of the middle and rear part of the exhaust system from the retaining straps.
- Slightly lower the middle and rear part of the exhaust system and tie with wire to the body.
- Disconnect the feed line and the return-flow line on the front right of the fuel tank. Unlock the quick coupling and disconnect ⇒ "2.10 Separating push-on couplings", page 343.



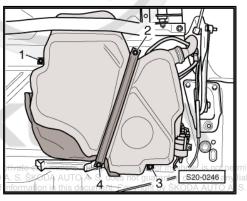


Note

- On vehicles with auxiliary heating, the fuel line for the dosing pump - V54- must also be disconnected.
- Press down the securing rings in order to unlock the connections of the fuel lines.
- Unscrew screws -2- and -4- for tensioning strap.
- Support the fuel tank with the engine/gearbox jack e.g. -V.A.G 1383 A- or -VAS 6931-
- Unscrew securing bolts -1- and -3-.
- Lower the fuel tank.

Installing

Check both earth connections for corrosion, if necessary remove corrosion.



- Check fitting position of the earth lead -1-.
- The plug -1- must be firmly fitted to the metal plate ring -2-.
- The contact tab -4- must be hung on the fuel tank -3- and secured with the spacer bush -5-.
- Pull through the filler neck between the body and the rear axle with the help of a second mechanic. Then place the engine and gearbox jack , e.g. -V.A.G 1383 A- or -VAS 6931- .

Further installation occurs in reverse order. Pay attention to the following:

- Install the fuel lines without kinks.
- Do not mix-up the feed line and the return-flow line (the returnflow line is blue, the feed line is black).
- Make sure the connections fit tightly.
- Check feed line and return-flow line at fuel tank for firm seating.

Before starting the engine, the fuel system must be bled as follows:

Switch on the ignition and only switch it off once the fuel pump has come to a standstill. Repeat this procedure at least »5 times«.

Tightening torques - summaries of components



Note

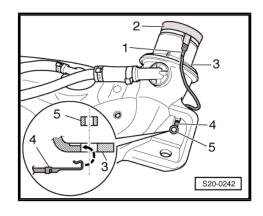
Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- Summary of components ⇒ "2.1.3 Summary of components - Fuel tank with attached parts, Octavia II with front wheel drive, Yeti", page 316.
- Summary of components ⇒ "1.2.3 Summary of components - Middle and rear part of the exhaust system, vehicles with front-wheel drive, Octavia II", page 509.
- Summary of components TO A. S. ⇒ "1.2.6 Summary of components Middle and rear part of the AUTO A.S. exhaust system, Yeti", page 512.

2.11.3 Removing and installing fuel tank, Octavia II with four-wheel drive, Superb II

Special tools and workshop equipment required

◆ Engine and gearbox jack, e.g. -V.A.G 1383 A- or -VAS 6931-





Removing



Note

- Drain the fuel tank
 ⇒ "2.6 Extract fuel from the fuel tank", page 329.
- ◆ Safety precautions when working on the fuel supply system ⇒ "2 Safety instructions", page 3.
- ◆ Observe the regulations concerning cleanliness when working on the fuel supply/injection system
 ⇒ "3.1 Rules of cleanliness", page 7.
- Switch off ignition and pull out ignition key.
- Removing rear seat bench ⇒ Body Work; Rep. gr. 72.
- Remove the cover from the fuel delivery unit and from the fuel gauge sender 2 - G169- .



Note

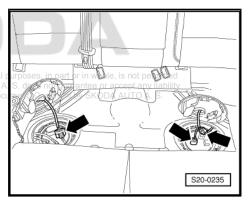
On vehicles with auxiliary heating, the plug connection for the dosing pump - V54- must also be disconnected.

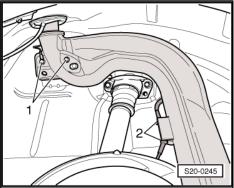
- Remove the plug from the fuel delivery unit and from the fuel gauge sender 2 - G169- -arrows-.
- Unscrew right rear wheel ⇒ Chassis; Rep. gr. 44.
- Open the fuel tank cap and clean around the fuel filler neck.
- Unscrew the cap from the fuel filler neck.
- Close the opening of the fuel filler neck with a clean foam piece, so that no dirt can penetrate.
- Remove the rear right wheelhouse liner ⇒ Body Work; Rep. gr. 66.
- Remove screws -1- for filler neck on the body.
- Unclip the wiring loom from the holder -2- at the top and bottom of the filler neck.



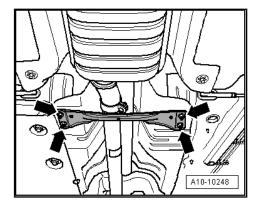
Note

- ♦ On vehicles with auxiliary heating, the fuel line for the dosing pump V54- must also be disconnected.
- ◆ Press down the securing rings in order to unlock the connections of the fuel lines. Unlock the quick coupling and disconnect ⇒ "2.10 Separating push-on couplings", page 343.



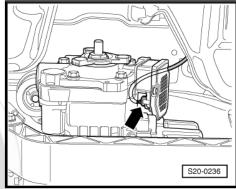


- Remove tunnel bridge -arrows-.
- Remove middle and rear part of exhaust system.



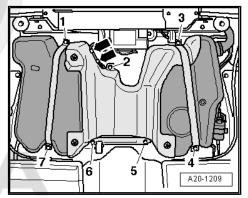
Vehicles with four-wheel drive

- Remove propshaft ⇒ Gearbox; Rep. gr. 39.
- Disconnect plug from four-wheel drive control unit J492--arrow-.



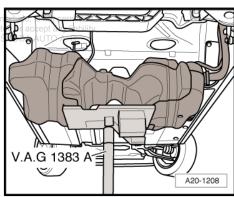
Continued for all vehicles

- Disconnect the feed line and the return-flow line on the front right of the fuel tank. Unlock the quick coupling and disconnect 2.10 Separating push-on couplings", page 343
- First unscrew the screws -2-, -5- and -6-.
- Support the fuel tank with the engine/gearbox jack e.g. -V.A.G 1383 A- or -VAS 6931-
- Unscrew the screws for the tensioning straps -1-, -3-, -4- and



- Slightly lower the fuel tank with the engine/gearbox jack e. g.part or -V.A.G 1383 A-lor =VAS 6931-0
- Then remove the fuel tank from the engine/gearbox jack e.g. -V.A.G 1383 A- or -VAS 6931- and pull through the filler neck between the body and the rear axle with the help of a second mechanic.

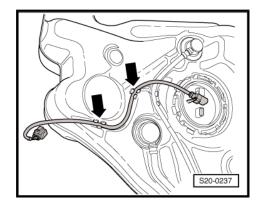
Installing



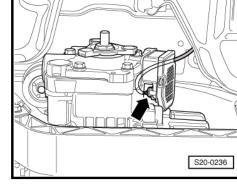
Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

Vehicles with four-wheel drive

- Attach line for four-wheel drive control unit J492- to the fuel tank -arrows-. To do so, support the fuel tank with the engine/ gearbox jack.
- Raise fuel tank in its installation position and install.



Connect the plug to the four-wheel drive control unit - J492--arrow-.









Continued for all vehicles

- Check both earth connections for corrosion, if necessary remove corrosion.
- Check fitting position of the earth lead -1-.
- The plug -1- must be firmly fitted to the metal plate ring -2-.
- The contact tab -4- must be hung on the fuel tank -3- and secured with the spacer bush -5-.
- Pull through the filler neck between the body and the rear axle with the help of a second mechanic. Then place the engine and gearbox jack, e.g. -V.A.G 1383 A- or -VAS 6931-

Further installation occurs in reverse order. Pay attention to the following:

- Install the fuel lines without kinks.
- Do not mix-up the feed line and the return-flow line (the returnflow line is blue, the feed line is black).
- Make sure the connections fit tightly.
- Check feed line and return-flow line at fuel tank for firm seating.

Before starting the engine, the fuel system must be bled as fol-

Switch on the ignition and only switch it off once the fuel pump has come to a standstill. Repeat this procedure at least »5 times«.

Tightening torques - summaries of components A. S. SKODA AUTO A. S. does not guarantee or accept any liability



Note

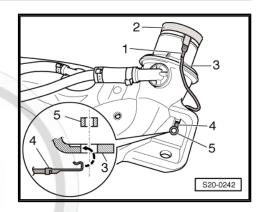
Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- Summary of components ⇒ "2.1.4 Summary of components - Fuel tank with attached parts, Octavia II with four-wheel drive, Superb II", page 318
- Summary of components ⇒ "1.2.4 Summary of components - Middle and rear part of the exhaust system, vehicles with four-wheel drive, Octavia II", <u>page 510</u> .
- Summary of components ⇒ "1.2.5 Summary of components - Middle and rear part of the exhaust system, Superb II", page 511 .

2.12 Identification mark of the different lowpressure fuel systems

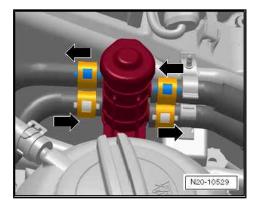
There are 2 versions of the low-pressure fuel systems installed.

Prior to starting testing, determine which system the vehicle has.

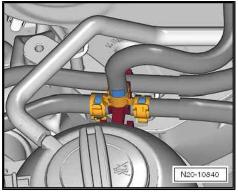




Identification mark of the low-pressure fuel systems



- The low-pressure fuel systems 0.05 MPa (0.5 bar) is installed with a preheating valve.
- The low-pressure fuel system 0.6 MPa (6.0 bar) is NOT installed with a preheating valve, but with a T-piece.
- Additional identification marks of the low-pressure fuel systems are located on the high-pressure side of the fuel system

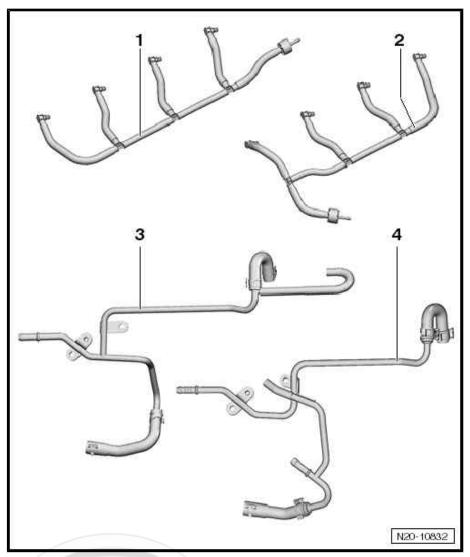








- 1 Fuel return-flow line of lowpressure fuel system 0.05 MPa (0.5 bar)
 - Position -1-⇒ "2.1 Assembly overview - fuel system", page 431
 - ☐ flexible
 - with pressure holding
- 2 Fuel return-flow line of lowpressure fuel system 0.6 MPa (6.0 bar)
 - □ Position -1-⇒ "2.1 Assembly overview - fuel system", page 431
 - ☐ flexible
 - with pressure holding valve
- 3 Fuel return-flow lines of lowpressure fuel system 0.05 MPa (0.5 bar)
 - ☐ rigid
- 4 Fuel return-flow lines of lowpressure fuel system 0.6 MPa (6.0 bar)
 - □ rigid









1 - High pressure pump with low-pressure fuel system 0.05 MPa (0.5 bar)

with prepump installed in the high pressure pump

2 - High pressure pump of lowpressure fuel system 0.6 MPa (6.0 bar)

- without prepump
- □ The fuel pump produces the required 0.6 MPa (6.0 bar) in the low-pressure fuel system ⇒ "2.7 Removing and installing fuel delivery unit", page 332
- 3 Fuel pressure regulating valve N 276- of low-pressure fuel system 0.05 MPa (0.5 bar)



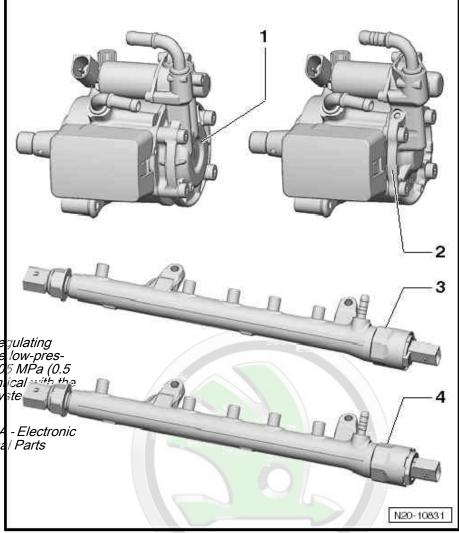
Note

- ♦ The fuel pressure regulating valve N 276- of the low-pressure fuel system 0.05 MPa (0.5 bar) is optically identical with the low-pressure fuel system MPa (6.0 bar).
- ◆ Assignment ⇒ ETKA Electronic Catalogue of Original Parts
- 4 Fuel pressure regulating valve N 276- of low-pressure fuel system 0.6 MPa (6.0 bar)



Note

- ♦ The fuel pressure regulating valve N 276- of the low-pressure fuel system 0.6 MPa (6.0 bar) is optically identical with the low-pressure fuel system 0.05 MPa (5.0 bar).
- ♦ Assignment ⇒ ETKA Electronic Catalogue of Original Parts





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"3 inspecting fuel pump"

"3 inspecting fuel pump"

"4 inspecting fuel pump"

"5 inspecting fuel pump"

"6 inspecting fuel pump"

"7 inspecting fuel pump"

"8 inspecting fuel pump"

"8 inspecting fuel pump"

"9 inspecting fuel pump"



3 inspecting fuel pump

- ⇒ "3.1 Checking fuel flow rate of the fuel pump, Fabia II, Roomster, Rapid NH", page 361
- ⇒ "3.2 Checking fuel flow rate of the fuel pump, Rapid India", page 364
- ⇒ "3.3 Checking fuel flow rate of the fuel pump, Octavia II, Superb II, Yeti", page 366
- ⇒ "3.4 Checking current draw of fuel pump, Fabia II, Roomster, Rapid NH", page 369
- ⇒ "3.5 Checking current draw of fuel pump, Rapid India", page 370
- ⇒ "3.6 Checking current draw of fuel pump, Octavia II, Superb II, Yeti", page 372
- ⇒ "3.7 Checking feed pressure of fuel pump, Rapid India", page 374
- ⇒ "3.8 Checking the feed pressure of the fuel pump, Octavia II, Superb II, Yeti", page 378

3.1 Checking fuel flow rate of the fuel pump, Fabia II, Roomster, Rapid NH

Check with ⇒ Vehicle diagnostic tester



Note

For checking the fuel flow rate of the fuel pump, the procedure with the remote control - V.A.G 1348/3A- can also be used *⇒ page 362* .

Special tools and workshop equipment required

Measuring vessel

Test conditions

- Battery voltage at least 12.5 V
- Fuel filter OK.
- Fuel tank at least 1/2 full.
- Ignition off.

Test sequence SKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.



Note

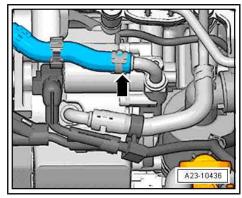
- Safety precautions when working on the fuel supply system ⇒ "2 Safety instructions", page 3.
- Observe rules for cleanliness *⇒ "3.1 Rules of cleanliness", page 7* .
- Remove engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11.



WARNING

Fuel feed line is pressurised. Place a clean cleaning cloth around the connection point before detaching hose connections. Reduce pressure by carefully releasing the connection point.

Detach the fuel feed line -arrow- from the high pressure pump.



- Hold the fuel feed line -1- (lengthened with a suitable hose -2-) in a measuring vessel -3-.
- Connect the ⇒ Vehicle diagnostic tester and carry out the "test fuel pump" function.



Note

The fuel pump is activated for 30 seconds.

Specified value of minimum fuel delivery volume in 30 seconds: min. 600 ml

If the minimum fuel delivery volume is not reached, the following faults may be present:

- Battery voltage too low.
- Fuel lines crimped, carry out a visual inspection.
- Fuel filter is clogged.
- There is a leak in the fuel system, check for tightness.
- Fuel pump defective: checker private or commercial purposes, in part or in whole, is not permitted uel pump defective: cneck r private of confidencial purposes, in part of the confidence of accept any liability
 "3 inspecting fuel pump", page 361 AUTO A. S. does not guarantee or accept any liability
 this document. Copyright by SKODA AUTO A. S.

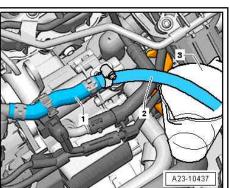


Special tools and workshop equipment required

- Hose adapter , e. g. -V.A.G 1318/16-
- Adapter set , e.g. -V.A.G 1318/17-
- Remote control, e.g. -V.A.G 1348/3A-
- Measuring vessel

Test conditions

- Supply voltage o.k.
- Battery voltage at least 11.5 V
- Fuel temperature 15 30 °C.





Fuel tank at least ¹/₄ full.

Test sequence



Note

- Observe the safety instructions before starting fitting work ⇒ "2 Safety instructions", page 3
- Observe rules for cleanliness *⇒ "3.1 Rules of cleanliness", page 7* .
- Unscrew the cap from the filler neck.

Vehicles Fabia II

Position right rear seat vertically ⇒ Body Work; Rep. gr. 72.

Vehicles Roomster

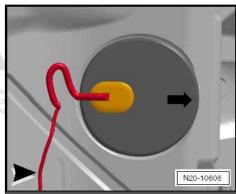
Fold back the middle and rear seat and position vertically ⇒ Body Work; Rep. gr. 72.

Vehicles Rapid NH

Removing rear seat bench ⇒ Body Work; Rep. gr. 72.

Continued for all vehicles

- Remove the cover of the fuel delivery unit under the floor covering.
- Disconnect the plug for the fuel delivery unit.



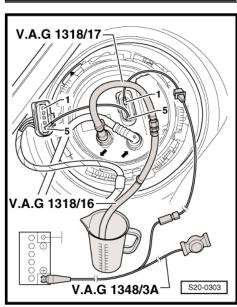
- Connect remote control -V.A.G 1348/3A- with connection lines from measuring tool set to contact -1- of the fuel pump and to battery +.
- Use the connection lines from the measuring tool set to connect the contacts -5- to the plug and to the fuel delivery unit.
- Pull off the fuel feed line and gather residual fuel in a cloth. Unlock the quick coupling and disconnect
 - ⇒ "2.10 Separating push-on couplings", page 343



WARNING

Fuel feed line is pressurised. Place a clean cleaning cloth around the connection point before detaching hose connections. Reduce pressure by carefully releasing the connection point.

- Connect adapter -V.A.G 1318/17- and -V.A.G 1318/16- to the fuel pump and hold in the measuring vessel.
- Activate remote control -V.A.G 1348/3A- for 30 seconds.





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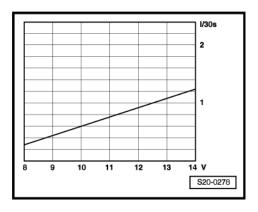
 Compare the amount of the fuel pumped to the specified value (the amount of the fuel pumped is dependent on the voltage at the fuel delivery unit).

If the minimum fuel delivery volume is not reached:

 Remove the fuel delivery unit and check that the preliminary stage screen is not clogged up.

If no fault was detected until now:

Replace fuel pump
 ⇒ "2.7 Removing and installing fuel delivery unit", page 332 .



3.2 Checking fuel flow rate of the fuel pump, Rapid India

Special tools and workshop equipment required

- ♦ Hose adapter VAS 6551/5-2-
- ♦ Hose adapter VAS 6551/5-3-
- Adapter VAS 6551/5-1-
- ◆ Test instrument adapter/DSO (5-pin), e.g. -VAS 5565-
- ♦ Handheld multimeter V.A.G 1526D-
- Measuring vessel

Test sequence:

- The feed pressure of the fuel pump (fuel low pressure) was checked before
 ⇒ "3.7 Checking feed pressure of fuel pump, Rapid India", page 374.
- Fuel tank at least ³/₄ full.
- Battery voltage at least 12.5 V



Note

- ♦ Safety precautions when working on the fuel supply system ⇒ "2 Safety instructions", page 3.
- ◆ Observe rules for cleanliness ⇒ "3.1 Rules of cleanliness", page 7.



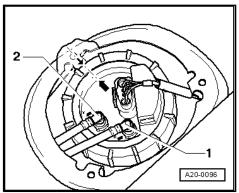
WARNING

Fuel feed line is pressurised. Place a clean cleaning cloth around the connection point before detaching hose connections. Reduce pressure by carefully releasing the connection point.

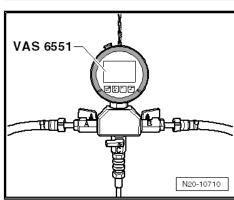
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- Remove feed line (black) -2- from pump flange- do so by pressing the release button. Unlock the guick coupling and disconnect
 - ⇒ "2.10 Separating push-on couplings", page 343.
- Collect the fuel which flows out with a cleaning cloth.



- Connect the connection -A- of the pressure gauge VAS 6551with the line -VAS 6551/1- to the open nozzles of the fuel delivery unit.
- Starting at the connection -B-, guide the hose adapter VAS 6551/2- in a measuring vessel ≥ 3 litres and hold it in position.
- Switch on the pressure gauge VAS 6551- by pressing the button On/Off.
- Close the shut-off cocks "B" and "C" of the pressure gauge -VAS 6551-.
- Switch on ignition.
- Connect the ⇒ Vehicle diagnostic tester and carry out the "test fuel pump" function.





Note

The fuel pump will now be activated for 30 seconds.

- Carefully and fully open the shut-off cock -B-.
- Slowly close the shut-off cock -B- again, during this period read off the pressure on the pressure gauge - VAS 6551- . Set the specified value of 0.5 \pm 0.02 MPa (5 \pm 0.2 bar) by carefully closing it.
- Drain the measuring vessel.

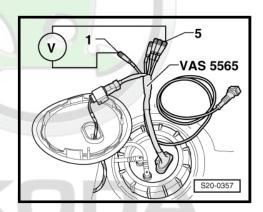
Repeat the function "test fuel pump".

The fuel flow rate of the fuel pumped is dependent on the voltage of the fuel pump.

For this reason, also connect the multimeter - V.A.G 1526- to the outputs -1- and -5- of the test instrument adapter/DSO (5pin) - VAS 5565- .

Test conditions

- Fuel temperature 15 up to 25 °C.
- Pressure 0.5 ± 0.02 MPa $(5 \pm 0.2$ bar) at the flange outlet of the fuel pump.
- A voltage of 11 to 15 V must be present at the fuel pump during the test. Measured at the flange plug connection of the pump.
- Carry out the function "test fuel pump".



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- Compare the delivered fuel rate with the read off value from the table.
- *) delivered fuel rate in ml / 30 s
- **) Voltage at fuel delivery unit (V) when engine not running and delivery unit operating

Read out examples:

During the test, for example a voltage of 12.0 V is measured at the fuel pump.

Hence the delivered fuel rate of 1100 ml/30 s.

The conveyed quantity of fuel has been reached or is still being measured: fuel pump OK.

If the delivered fuel rate of the fuel pump is not reached, this could cause the following faults:



- Filter strainer of fuel delivery unit soiled. Inspect filter strainer for soiling
 - ⇒ "2.7 Removing and installing fuel delivery unit", page 332
- ♦ During the test, a voltage of 11 up to 15 V was reached.
- Testing the voltage supply of the fuel pump ⇒ Vehicle diagnostic tester.
- ◆ Checking the power consumption of the fuel pump DA AUTO A. S. does not guarantee or accept any liability ⇒ "3.5 Checking current draw of fuel pump, Rapid India", page 370

3.3 Checking fuel flow rate of the fuel pump, Octavia II, Superb II, Yeti

Check with ⇒ Vehicle diagnostic tester



Note

For checking the fuel flow rate of the fuel pump, the procedure with the remote control - V.A.G 1348/3A- can also be used ⇒ page 367.

Special tools and workshop equipment required

Measuring vessel

Test conditions

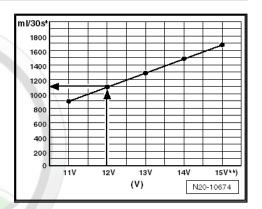
- Battery voltage at least 12.5 V
- · Fuel filter OK.
- Fuel tank at least ¹/₂ full.
- · Ignition off.

Test sequence



Note

- ◆ Safety precautions when working on the fuel supply system ⇒ "2 Safety instructions", page 3.
- Observe rules for cleanliness
 ⇒ "3.1 Rules of cleanliness", page 7





Remove engine cover

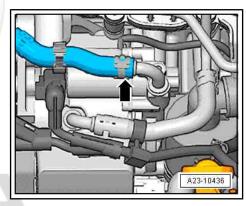
"1.1 Removing and installing engine trim panel", page 11.



WARNING

Fuel feed line is pressurised. Place a clean cleaning cloth around the connection point before detaching hose connections. Reduce pressure by carefully releasing the connection point.

Detach the fuel feed line -arrow- from the high pressure pump.



- Hold the fuel feed line -1- (lengthened with a suitable hose -2-) in a measuring vessel -3-.
- Connect the ⇒ Vehicle diagnostic tester and carry out the "test fuel pump" function.



Note

The fuel pump is activated for 30 seconds.

Specified value of minimum fuel delivery volume in 30 seconds: min. 600 ml

If the minimum fuel delivery volume is not reached, the following faults may be present:

- Battery voltage too low.
- Fuel lines crimped, carry out a visual inspection.
- Fuel filter is clogged.
- There is a leak in the fuel system, check for tightness.
- Fuel pump defective: check ⇒ "3 inspecting fuel pump", page 361

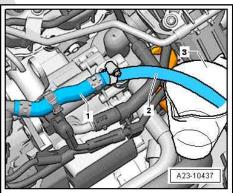
Checking with the remote control - V.A.G 1348/3A-

Special tools and workshop equipment required

- ◆ Remote control , e.g. -V.A.G 1348/3A-
- ◆ Auxiliary measuring set, , e. g. -V.A.G 1594 C-
- ♦ Adapter , e.g. -V.A.G 1318/16-
- ♦ Adapter, e.g. -V.A.G 1318/17-
- Measuring vessel

Test conditions

Battery voltage at least 12 V



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- Fuel temperature 15...30 °C.
- Fuel tank at least ¹/₄ full.

Test sequence



Note

- Safety precautions when working on the fuel supply system *"2 Safety instructions", page 3* .
- Observe rules for cleanliness ⇒ "3.1 Rules of cleanliness", page 7.
- Unscrew the cap from the filler neck.

For the vehicles Octavia II, Superb II

Removing rear seat bench ⇒ Body Work; Rep. gr. 72.

For the vehicles Yeti

- Remove rear seat bench with brackets ⇒ Body Work; Rep. gr. 72.
- Remove floor covering under the rear seats.

Continued for all vehicles

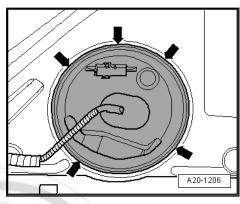
Unclip retaining catches -arrows- of cover for the fuel delivery unit and remove cover.

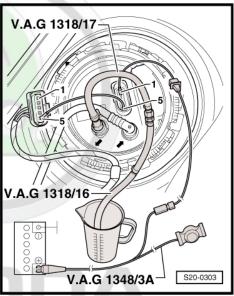


Note

For vehicles with auxiliary heating, the plug connection for the dosing pump - V54- must be disconnected additionally.

- Disconnect the plug for the fuel delivery unit.
- Connect remote control V.A.G 1348/3A- with connection lines from measuring tool set to contact -1- of the fuel pump and to battery positive terminal.
- Use the connection lines from the measuring tool set to connect the contacts -5- to the plug and to the fuel delivery unit.
- Pull off the fuel feed line from the flange of the fuel delivery unit. Unlock the quick coupling and disconnect ⇒ "2.10 Separating push-on couplings", page 343.
- Connect adapter V.A.G 1318/17- and adapter -V.A.G 1318/16-, fit onto the feed support and hold in a measuring vessel.
- Activate the remote control V.A.G 1348/3A- for 30 seconds.
- Measure the battery voltage.







I/30s

Compare the fuel rate with the specified value.



Note

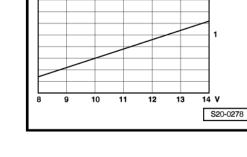
- The amount of the fuel pumped is dependent on the voltage.
- The voltage at the fuel pump is about 2 volts less than the battery voltage.

If the minimum fuel delivery volume is not reached:

Remove the fuel delivery unit and check that the preliminary stage screen is not clogged up.

If no fault was detected until now:

Replace fuel pump ⇒ "2.7 Removing and installing fuel delivery unit", page 332



3.4 Checking current draw of fuel pump, Fabia II, Roomster, Rapid NH

Special tools and workshop equipment required

- Hand-held multimeter , e.g. -V.A.G 1526D-
- Amps clamp, e.g. -V.A.G 1526B/2-
- Test instrument adapter/DSO (5-pin), e.g. -VAS 5565-



Note

- The battery voltage as well as the temperature of the diesel fuel have a major influence on the power consumption of the fuel pump. For this reason it is necessary to ensure that the battery voltage is at least 12 V when testing.
- Depending on the season, it is necessary to ensure that the vehicle is fueled with "winter diesel".

Test conditions

- Battery voltage at least 12 V
- Fuel temperature above 10 °C

Vehicles Fabia II

Position right rear seat vertically ⇒ Body Work; Rep. gr. 72.

Vehicles Roomster

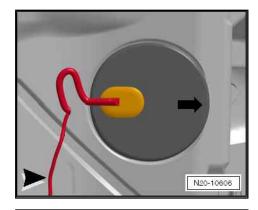
Fold back the middle and rear seat and position vertically ⇒ Body Work; Rep. gr. 72.

Vehicles Rapid NH

Removing rear seat bench ⇒ Body Work; Rep. gr. 72.

Continued for all vehicles

Remove the cover of the fuel delivery unit under the floor cov-



- First of all check the plug -arrow- for correct fit. Pull on the plug without pressing the locking mechanism. If the plug was not correctly plugged in, it may have caused a fault.
- Unplug connector -arrow-.



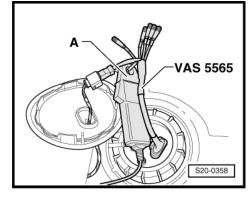
- Connect the test instrument adapter/DSO (5-pin) VAS 5565to the plug and to the fuel delivery unit.
- Connect the current probe -A- on the red cable with the inscription "current probe" - of the adapter for measuring method/DSO (5-pin) - VAS 5565-.



Note

The current probe of the hand-held multimeter - V.A.G 1715- can also be used.

Connect the ⇒ Vehicle diagnostic tester and carry out the "test fuel pump" function.





Note

The fuel pump is activated for 30 seconds.

- Read off power consumption at hand-held multimeter V.A.G

Set value: max. 7, 5, A ight. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. Ocean the second any liability If the specified current uptake is exceeded in this document. Copyright by ŠKODA AUTO A. S

Fuel pump defective, replace the fuel delivery unit ⇒ "2.7 Removing and installing fuel delivery unit", page 332.

3.5 Checking current draw of fuel pump, Rapid India

Special tools and workshop equipment required

Hand multimeter - V.A.G 1526D- or current probe - V.A.G 1526B/2-



◆ Test instrument adapter/DSO (5-pin) - VAS 5565-



Note

- The battery voltage as well as the temperature of the diesel fuel have a major influence on the power consumption of the fuel pump. For this reason it is necessary to ensure that the battery voltage is at least 12.5 V when testing.
- Depending on the season, it is necessary to ensure that the vehicle is fueled with "winter diesel".

Test conditions:

- Battery voltage at least 12.5 V
- Fuel temperature above 10 °C

Test sequence:

- Removing rear seat bench ⇒ Body Work ⇒ Rep. gr. 72.
- Remove the cover of the fuel delivery unit under the floor covering.
- First of all check the plug connection -arrow- for firm seating, whereby it is necessary to pull on the plug connection without pressing the catch. If the plug connection was not correctly plugged in, this could cause a fault.
- Unplug connector -arrow-.





Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- Connect the test instrument adapter/DSO (5-pin) VAS 5565to the plug and to the fuel delivery unit.
- Connect the current probe -A- on the red cable with the inscription "current probe" - of the adapter for measuring method/DSO (5-pin) - VAS 5565- .



Note

Connect the current probe of the multimeter - V.A.G 1715- on the red cable - with the inscription "current probe" - of the adapter for measuring method/DSO (5-pin) - VAS 5565-.

- Switch on ignition.
- Connect the ⇒ Vehicle diagnostic tester and carry out the "test fuel pump" function.



Note

The fuel pump will now be activated for 30 seconds.

- Read off power consumption at hand-held multimeter V.A.G 1526D- .
- Set value: min. 8.0 A, max. 14.0 A.

If the measured value except the specified value:

- Remove fuel delivery unit
 ⇒ "2.7 Removing and installing fuel delivery unit", page 332.
- Check whether the electric wiring between the flange and fuel pump is connected and test for continuity.

If there is no open circuit in the wiring.

Replace fuel pump

⇒ "2.7 Removing and installing fuel delivery unit", page 332

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3.6 Checking current draw of fuel pump, Octavia II, Superb II, Yeti

Special tools and workshop equipment required

- Hand multimeter , e.g. -V.A.G 1526D-
- ◆ Amps clamp , e.g. -V.A.G 1526B/2-
- ◆ Test instrument adapter/DSO (5-pin), e.g. -VAS 5565-

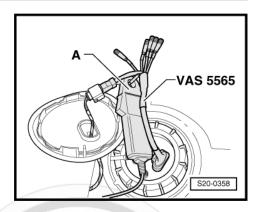


Note

- ♦ The battery voltage as well as the temperature of the diesel fuel have a major influence on the power consumption of the fuel pump. For this reason it is necessary to ensure that the battery voltage is at least 12 V when testing.
- Depending on the season, it is necessary to ensure that the vehicle is fueled with "winter diesel".

Test conditions

- Battery voltage at least 12 V
- Fuel temperature above 10 °C



For the vehicles Octavia II, Superb II

Removing rear seat bench ⇒ Body Work; Rep. gr. 72.

For the vehicles Yeti

- Remove rear seat bench with brackets ⇒ Body Work; Rep. gr. 72.
- Remove floor covering under the rear seats.

Continued for all vehicles

Unclip retaining catches -arrows- of cover for the fuel delivery unit and remove cover.



Note

For vehicles with auxiliary heating, the plug connection for the dosing pump - V54- must be disconnected additionally.

- First of all check the plug for correct fit. Pull on the plug without pressing the locking mechanism. If the plug was not correctly plugged in, it may have caused a fault.
- Disconnect the plug from the flange of the fuel delivery unit.
- Connect the adapter for measuring method/DSO (5-pin), e.g. -VAS 5565-, between the plug and the flange.
- Connect the current probe -A- on the red cable with the inscription "current probe" - of the adapter for measuring method/DSO (5-pin) - VAS 5565- .

Note

The current probe of the hand-held multimeter - V.A.G 1715- can also be used.

- Switch on ignition.
- Connect the ⇒ Vehicle diagnostic tester and carry out the "test fuel pump" function.



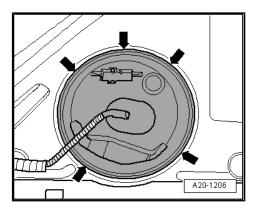
Note

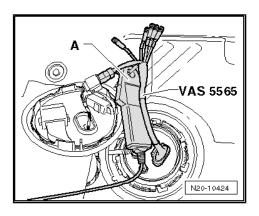
The fuel pump is activated for 30 seconds.

- Read off power consumption at hand-held multimeter V.A.G 1526D-.
- Set value: max. 7.5 A

If the specified current uptake is exceeded:

Fuel pump defective, replace the fuel delivery unit ⇒ "2.7 Removing and installing fuel delivery unit", page 332.







3.7 Checking feed pressure of fuel pump, Rapid India



Note

The 0.6 MPa (6.0 bar) low pressure fuel system is used in the Rapid India vehicle. Ídentification mark *⇒ "2.12 Identification mark of the different low-pressure fuel sys*tems", page 357 .



Caution

First of all check the electrical plug connection to the fuel pump for firm seating, whereby it is necessary to pull on the plug connection without pressing the catch.

Special tools and workshop equipment required

- Hose adapter VAS 6551/5-2-
- Hose adapter VAS 6551/5-3-
- Adapter VAS 6551/5-1-

Test condition:

- Fuses OK ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.
- Battery voltage at least 12 V
- The measurement does not depend on the fuel level, however the minimum fuel level of 5 I must be kept.
- Ensure level vehicle positioning.
- Flow path in the fuel hoses and the lines in the engine compartment and on the underbody not interrupted due to damage (kinks).
- All electrical consumers such as the lights and rear window heater must be switched off.



WARNING

Fuel feed line is pressurised. Place a clean cleaning cloth around the connection point before detaching hose connections. Reduce pressure by carefully releasing the connection point.

Test sequence:

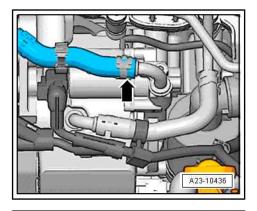


Note

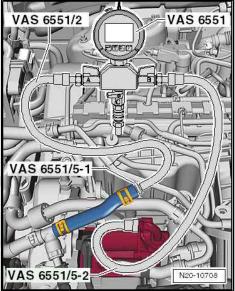
- Safety precautions when working on the fuel supply system and a supply system "2 Safety instructions", page 3 .
- Observe rules for cleanliness *⇒ "3.1 Rules of cleanliness", page 7* .
- Remove engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11.



- Connect hose adapter VAS 6551/5-2- with hose adapter -VAS 6551/5-4-.
- Collect the fuel which flows out with a cleaning cloth.
- Detach the fuel feed line -arrow- from the high pressure pump.



- Connect the pressure gauge VAS 6551- with the lines of the hose adapter VAS 6551/5-2- and hose adapter VAS 6551/5-3- to the fuel circuit.
- Switch on the pressure gauge VAS 6551- by pressing the button $\boxed{\texttt{On/Off}}.$







Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- Open the shut-off cocks "A" and "B" of the pressure gauge -VAS 6551-, close the shut-off cock "C".
- Connect the ⇒ Vehicle diagnostic tester and carry out the "test fuel pump" function.



Note

The fuel pump will now be activated for 30 seconds.

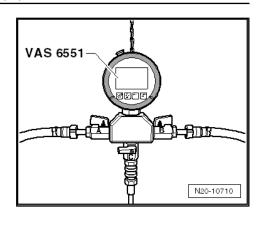
- Read the pressure on the pressure gauge VAS 6551-.
- Specified value: at least 0.45 MPa (4.5 bar).
- Start engine and run in idle.
- Read the pressure on the pressure gauge VAS 6551-.
- Specified value: at least 0.45 MPa (4.5 bar).
- Position the pressure gauge VAS 6551- on the windscreen in such a way that it is legible from inside.
- Increase idling speed to 2500 rpm.
- Read the pressure on the pressure gauge VAS 6551-.
- Specified value: at least 0.45 MPa (4.5 bar).

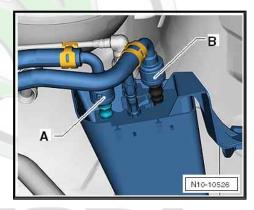
If the specified value is not reached, the test must be repeated before the fuel enters the fuel filter. This will determine whether the fuel filter is clogged.

If no pressure rise occurs, first check the voltage supply ⇒ Vehicle diagnostic tester and the power consumption

Schecking current draw of fuel pump, Rapid India, page 370 of the fuel pump.

- Re-connect the fuel feed line to the high pressure pump.
- Detach fuel feed line -B-. To do so, push the quick coupling onto the nozzle, press in the securing elements (hold pressed) and detach the quick coupling. Unlock the quick coupling and disconnect
 - "2.10 Separating push-on couplings", page 343







 Connect pressure gauge - VAS 6551- with lines -VAS 6551/1and -VAS 6551/2- to the fuel circuit.

Pay attention to secure catch of the couplings.

- Collect the fuel which flows out with a cleaning cloth.
- The pressure measurement is carried out in the same way as the previous test.

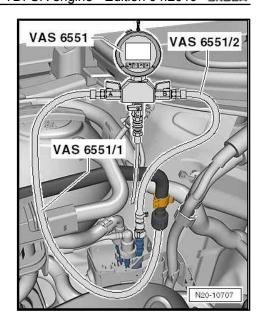
The pressure value must mow be at least 0.46 MPa (4.6 bar).

- If the prescribed pressure values are not reached
- ◆ The difference between the existing pressure values (upstream and downstream filters) ≥ 0.04 MPa (0.4 bar)
- The fuel filter must be replaced
 ⇒ "2.4 Removing and installing fuel filter", page 326.
- ♦ If the prescribed pressure values are not reached
- The measurement must be directly carried out at the fuel pump.
- Re-connect the quick coupling of the fuel feed line.

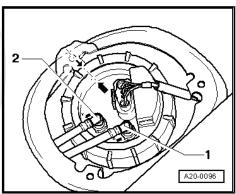
Pay attention to secure catch of the coupling.

- Removing rear seat bench ⇒ Body Work; Rep. gr. 72.
- Remove the cover of the fuel delivery unit under the floor covering.
- First of all check the plug connection -arrow- for firm seating, whereby it is necessary to pull on the plug connection without pressing the catch. If the plug connection was not correctly plugged in, this could cause a fault.

- Remove feed line (black) -2- from pump flange- do so by pressing the release button. Unlock the quick coupling and disconnect
 - ⇒ "2.10 Separating push-on couplings", page 343.
- Collect the fuel which flows out with a cleaning cloth.









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- Connect the connection -A- of the pressure gauge VAS 6551with the line -VAS 6551/1- to the open nozzles of the fuel delivery unit.
- Close the shut-off cocks "B" and "C" of the pressure gauge -VAS 6551-.
- Switch on the pressure gauge VAS 6551- by pressing the button On/Off.
- Connect the ⇒ Vehicle diagnostic tester and carry out the "test fuel pump" function.



Note

The fuel pump will now be activated for 30 seconds.

- Read the pressure on the pressure gauge VAS 6551-.
- Set value: min. 0.72 ± 0.05 MPa $(7.2 \pm 0.5$ bar).

If the indicated pressure is not reached, the indicated pressure is completely or temporarily interrupted again, this could cause the following faults:

- Battery voltage below 12.5 V (connect charger).
- Fuel flow rate of fuel pump too low, check ⇒ "3.2 Checking fuel flow rate of the fuel pump, Rapid India", page 364.
- Voltage supply of fuel pump not O.K., check ⇒ Vehicle diagnostic tester.
- Power consumption of fuel pump too low, check ⇒ "3.5 Checking current draw of fuel pump, Rapid India", page
- Filter strainer of fuel delivery unit soiled. Remove, in order to check the fuel delivery unit ⇒ "2.7 Removing and installing fuel delivery unit", page 332.
- Quick coupling in the fuel delivery unit faulty. Remove, in order to check the fuel delivery unit "2.7 Removing and installing fuel delivery unit", page 332

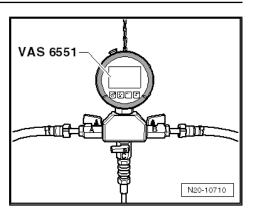
3.8 Checking the feed pressure of the fuel pump, Octavia II, Superb II, Yeti

Special tools and workshop equipment required

- Pressure gauge, e.g. -V.A.G 1318-
- Adapter se.g., 5VA.G. 1318/17A ammercial purposes, in part or in whole, is not permitted Adapter se.g., 5VA.G. 1318/17A a AUTO A. S. does not guarantee or accept any liability

Test conditions

- Battery voltage at least 12 V
- Fuses o.k. ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.
- All electrical consumers such as the lights and rear window heater must be switched off.



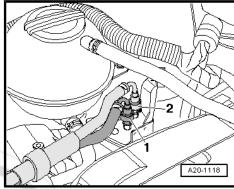


Test sequence



Note

- Safety precautions when working on the fuel supply system "2 Safety instructions", page 3
- Observe rules for cleanliness ⇒ "3.1 Rules of cleanliness", page 7.
- Separate fuel feed line -2-, to do so press in securing ring. Unlock the quick coupling and disconnect ⇒ "2.10 Separating push-on couplings", page 343.



- Connect the pressure gauge V.A.G 1318- with the adapter -V.A.G 1318/17A- to the open ends of the fuel feed line (the illustration shows a different engine).
- Open shut-off cock of the pressure gauge.
- Start engine and run in idle.
- Read the pressure on the pressure gauge V.A.G 1318- .
- Set value: min. 0.05 MPa (0.5 bar)
- Increase the engine speed to 2500 rpm and read the pressure on the pressure gauge - V.A.G 1318- .
- Set value: min. 0.025 MPa (0.25 bar)

If the specified value is not reached or if the feed pressure is temporarily interrupted:

⇒ "2.7 Removing and installing fuel delivery unit", page 332

If the specified value is reached:

Replace fuel pump

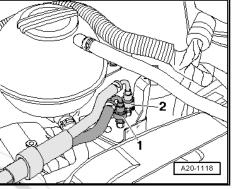


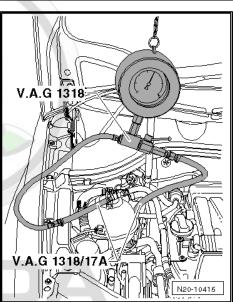
Note

In the event of handling problems, replace the fuel filter to rule out blockage of the fuel filter.

Check the fuel flow rate of the fuel pump

"3.3 Checking fuel flow rate of the fuel pump, Octavia II, Superb II, Yeti", page 366







4 Accelerator control

- ⇒ "4.1 Assembly overview accelerator module", page 380
- ⇒ "4.2 Removing and installing accelerator pedal module", page 381
- ⇒ "4.3 Disconnect connector for accelerator pedal module and fit on", page 383
- 4.1 Assembly overview accelerator module
- ⇒ "4.1.1 Summary of components Accelerator pedal module, Fabia II, Roomster, Rapid India, Rapid NH", page 380
- ⇒ "4.1.2 Summary of components accelerator pedal module, Octavia II, Superb II, Yeti", page 381
- 4.1.1 Summary of components Accelerator pedal module, Fabia II, Roomster, Rapid India, Rapid NH

1 - Bearing bracket

□ removing and installing ⇒ Chassis; Rep. gr. 46

2 - Connector

☐ 6-pin, black

3 - Screw

□ 9 Nm

4 - Accelerator pedal module

- with accelerator pedal position encoder - G79and accelerator pedal position encoder 2 -G185-
- not adjustable
- ☐ Check ⇒ Vehicle diagnostic tester.
- to remove the bottom part of the dash panel on the driver's side





4.1.2 Summary of components - accelerator pedal module, Octavia II, Superb II,

1 - Connector

disconnect and fit on ⇒ "4.3 Disconnect connector for accelerator pedal module and fit on", page 383

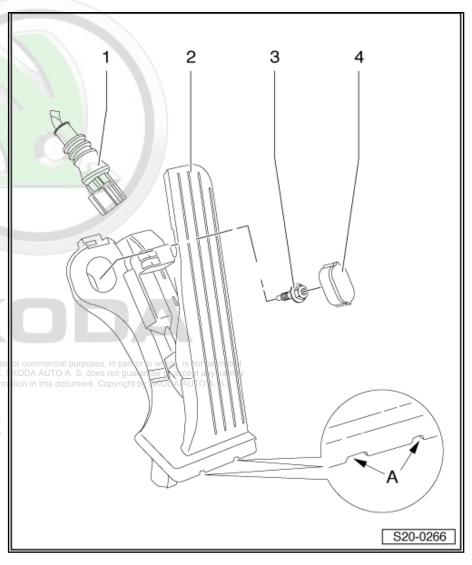
2 - Accelerator pedal module

- with accelerator pedal position encoder - G79and accelerator pedal position encoder 2 -G185-
- on vehicles with automatic gearbox with kickdown switch
- if the accelerator pedal module was replaced on vehicles with automatic gearbox, the engine control unit must be adapted ⇒ Vehicle diagnostic tester
- A- openings for the release tool
- □ not adjustable ctness of inform
- □ Removing and installing ⇒ "4.2 Removing and installing accelerator pedal module", page 381

3 - Screw

□ 10 Nm

4 - Cap



4.2 Removing and installing accelerator pedal module

⇒ "4.2.1 Removing and installing accelerator pedal module, Octavia II, Superb II, Yeti", page 381

Removing and installing accelerator 4.2.1 pedal module, Octavia II, Superb II, Yeti

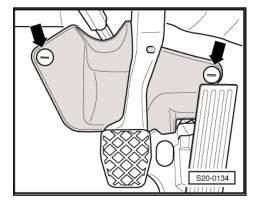
Special tools and workshop equipment required

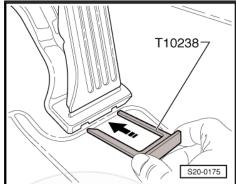
- ◆ Release tool T10238- (for left-hand drive vehicle)
- Release tool T10240- (for right-hand drive vehicle)



Removing

- Remove steering column trim panel -arrows-.
- Disconnect connector from accelerator pedal module.
 - To do so press down securing element at plug.
- Lever out the cap with a screwdriver ⇒ "4.1.2 Summary of components - accelerator pedal module, Octavia II, Superb II, Yeti", page 381
- Release fixing screw ⇒ "4.1.2 Summary of components - accelerator pedal module, Octavia II, Superb II, Yeti", page 381 .
- Push the release tool T10238- (for right-hand drive release tool - T10240-) as shown up to the stop into the provided openings and remove the accelerator pedal module.



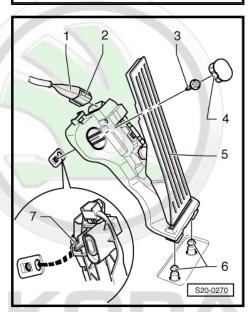


Installing

- Fit the plug -2- onto the accelerator pedal module -5-. The locking of the connector must be audible.
- Push again rubber grommet -1- onto the connector -2-.
- Push accelerator pedal module onto the securing bolt -6-.
- Insert the centering pin -7- into the hole in the underbody.
- Screw on accelerator pedal module with fixing screw -3- and fit the cap -4-.
- Install steering column cover.
- If the accelerator pedal module was replaced on vehicles with automatic gearbox, the engine control unit must be adapted ⇒ Vehicle diagnostic tester.

Tightening torques - summaries of components

Accelerator pedal "4.1.2 Summary of components - accelerator pedal module, Octavia II, Superb II, Yeti", page 381 .





4.3 Disconnect connector for accelerator pedal module and fit on

⇒ "4.3.1 Removing and installing accelerator pedal module connector, Octavia II, Superb II, Yeti", page 383

4.3.1 Removing and installing accelerator pedal module connector, Octavia II, Superb II, Yeti



Note

The different connectors for the accelerator pedal module which are inserted, must be disconnected and fit on in a different manner.

Disconnect connector 1K0 973 706

- Lightly press the piston slide valve -A- (grey) in direction of arrow -1- and slide as far as it can go in the direction of arrow -2-.
- Hold the piston slide valve in this position and disconnect the socket housings -B- in -direction of arrow 3-.

The piston slide valve -A- remains in the bottom position.



 Push the socket housing -B- in -direction of arrow- until the piston slide valve can be heard to lock in place.

The piston slide valve -A- moves automatically upwards.



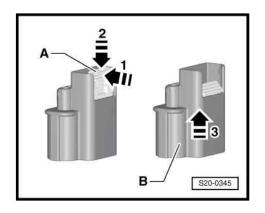
Note

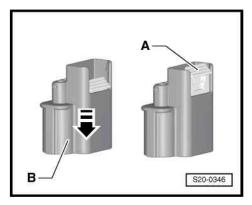
For safety reasons, check the connector for secure catch by tightening it in the opposite direction.

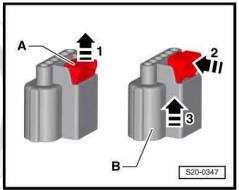
Disconnect connector 8K0 973 706

- Remove piston slide valve -A- (red) up to the stop in direction of arrow -1-.
- Press the piston slide valve in direction of arrow -2- and disconnect the socket housing -B- in direction of arrow -3-.

The piston slide valve -A- remains in the top position.









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Fit on connector 8K0 973 706

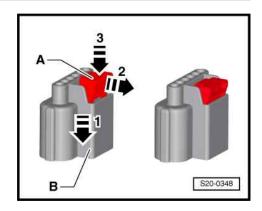
- Push connector housing -B- in direction of arrow -1- as far as the stop.
- Lightly press the piston slide valve in direction of arrow -2- and slide in the direction of arrow -3-.

The piston slide valve -A- can only be pushed down if the socket housing was pushed up to the stop.



Note

For safety reasons, check the connector for secure catch by tightening it in the opposite direction.







Turbocharging/supercharging

- Exhaust gas turbocharger
- ⇒ "1.1 Summary of components exhaust gas turbocharger with component parts", page 385
- ⇒ "1.2 Removing and installing exhaust gas turbocharger", page 390
- ⇒ "1.3 Replace vacuum positioning element for charge pressure regulation with position sender for charge pressure regulator G581 ", page 401
- \Rightarrow "1.4 Removing and installing the exhaust gas temperature transmitter 1 G235 ", page 406
- 1.1 Summary of components - exhaust gas turbocharger with component parts
- ⇒ "1.1.1 Summary of components Exhaust gas turbocharger with component parts, Fabia II, Roomster, Rapid India, Rapid NH", page 385
- ⇒ "1.1.2 Summary of components Exhaust gas turbocharger with component parts, Octavia II, Superb II, Yeti", page 388
- 1.1.1 Summary of components - Exhaust gas turbocharger with component parts, Fabia II, Roomster, Rapid India, Rapid NH



- Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.
- Observe rules for cleanliness ⇒ "3.1 Rules of cleanliness", page 7.
- Observe general instructions for charge-air system ⇒ "3.6 General instructions for charge air system", page 8.







1 - Connecting pipe

to radiator for exhaust gas recirculation

2 - Seal

□ Replace after disassembly

3 - Screw

- ☐ Replace after disassembly
- ☐ 14 Nm

4 - Oil feed line

- Removing and installing ⇒ "1.2.1 Removing and installing exhaust gas turbocharger, Fabia II, Roomster, Rapid India, Rapid NH", page 390
- check continuity
- before installing, fill the exhaust gas turbocharger on the connection fitting with engine oil
- ☐ Union nut tightening torque 22 Nm

5 - Oil return-flow line

□ Removing and installing installing exhaust gas turbocharger, Fabia II, Roomster, Rapid India, Rapid NH", page 390

6 - Seal

□ Replace after disassembly

7 - Nuts/bolts

- Screw:14 Nm
- Nut: 24 Nm

8 - Heat shield

□ Replace if damaged.

9 - Exhaust gas turbocharger

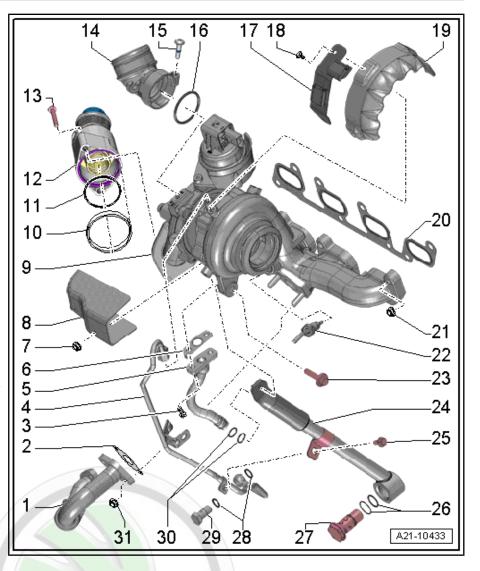
- only complete with exhaust manifold
- Removing and installing ⇒ "1.2.1 Removing and installing exhaust gas turbocharger, Fabia II, Roomster, Rapid India, Rapid NH", page 390
- Remove and install the connection pipe for the intake hose ⇒ "3.5 Removing and installing air filter", page 479

10 - Retaining loop

- ☐ fits in one position only
- ☐ Different versions ⇒ ETKA Electronic Catalogue of Original Parts and liability

11 - O-ring

□ Replace after disassembly



12 - Pulsation dampener
13 - Screw
□ 9 Nm
14 - Inlet connection
 Observe fitting position to exhaust gas turbocharger
15 - Screw
□ 9 Nm
□ captive in the inlet connection
16 - O-ring
Replace after disassembly
17 - Mounting bracket ☐ for electrical cables
18 - Screw
□ 15 Nm
19 - Heat shield
□ Replace if damaged.
20 - Seal
□ Replace after disassembly
21 - Nut
Replace after disassembly24 Nm
22 - Exhaust gas temperature transmitter 1 - G235-
□ coat thread with hot bolt paste - G 052 112 A3- before installing
□ Removing and installing ⇒ "1.4 Removing and installing the exhaust gas temperature transmitter to G235 any page 406 with respect to the correctness of information in this document. Copyright by \$KODA AUTO A. S.
□ 45 Nm
23 - Screw
□ 14 Nm
24 - Support for exhaust gas turbocharger
□ Removing and installing ⇒ "1.2.1 Removing and installing exhaust gas turbocharger, Fabia II, Roomster, Rapid India, Rapid NH",
page 390
25 - Screw
□ 10 Nm
26 - Sealing ring
□ Replace after disassembly
27 - hollow bolt Replace after disassembly
□ 60 Nm
28 - Sealing ring
□ Replace after disassembly
29 - hollow bolt
□ Replace after disassembly
□ 30 Nm
30 - O-ring
☐ Replace after disassembly



31 - Nut

- □ Replace after disassembly
- □ 22 Nm

1.1.2 Summary of components - Exhaust gas turbocharger with component parts, Octavia II, Superb II, Yeti



Note

- Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.
- Observe rules for cleanliness ⇒ "3.1 Rules of cleanliness", page 7.
- Observe general instructions for charge-air system *⇒ "3.6 General instructions for charge air system", page 8* .

The exhaust turbocharger and the exhaust manifold are one component part.

1 - Connecting pipe

to radiator for exhaust gas recirculation

2 - Seal

□ Replace after disassembly

3 - Screw

- ☐ Replace after disassembly
- ☐ 14 Nm

4 - Connection fitting

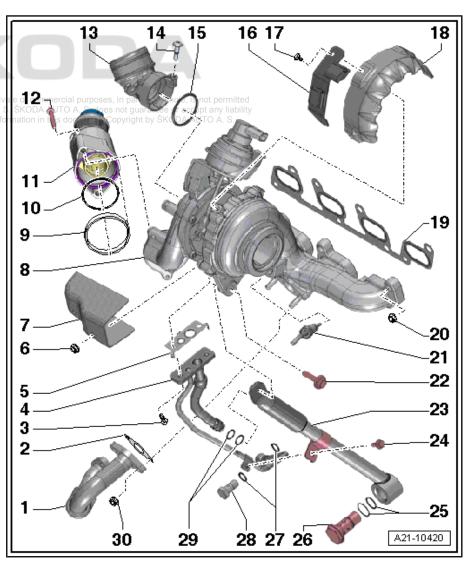
- with oil supply line and oil return line
- Removing and installing ⇒ "1.2.2 Removing and installing exhaust gas turbocharger, Octavia II, Superb II, Yeti", page 396
- check continuity
- Before fitting to the turbocharger, fill the oil supply line with engine

5 - Seal

□ Replace after disassembly

6 - Nuts/bolts

- Screw:15 Nm
- Nut: 24 Nm





7 - Heat shield

	khaust gas turbocharger
	can only be replaced completely with exhaust manifold and vacuum unit
	Removing and installing ⇒ "1.2.2 Removing and installing exhaust gas turbocharger, Octavia II, Superb II, Yeti", page 396
	Remove and install the connection pipe for the intake hose ⇒ "3.5 Removing and installing air filter", page 479
9 - R	etaining loop
	fits in one position only
	Different versions ⇒ ETKA - Electronic Catalogue of Original Parts
	D-ring Replace after disassembly
	Pulsation dampener
	Screw
	9 Nm
13 - I	nlet connection
	Observe fitting position to exhaust gas turbocharger
14 - 8	Screw
	9 Nm
	captive in the inlet connection
	O-ring
	Replace after disassembly
	Mounting bracket for electrical cables
	Screw
	15 Nm
18 - H	Heat shield
19 - 8	Seal
	Replace after disassembly
20 - 1	Nut
	Replace after disassembly
	24 Nm
_	Exhaust gas temperature transmitter 1 - G235-
	coat thread with hot bolt paste - G 052 112 A3- before installing Removing and installing
	⇒ "1.4 Removing and installing the exhaust gas temperature transmitter 1 G235 ", page 406
	45 Nm
	Screw
	14 Nm
	Support for exhaust gas turbocharger
_	Removing and installing ⇒ "1.2.2 Removing and installing exhaust gas turbocharger, Octavia II, Superb II, Yeti", page 396
24 - 5	Screw
	10 Nm
25 - 8	Sealing ring
	Replace after disassembly

00		 bolt
/n -	nnı	nair

		Replace	after	disassembly	,
--	--	---------	-------	-------------	---

- □ For vehicles with four-wheel drive, the flange shaft to the right of the angle gearbox must be removed for removal and installation ⇒ Chassis; Rep. gr. 40
- □ 60 Nm

27 - Sealing ring

□ Replace after disassembly

28 - hollow bolt

- □ Replace after disassembly
- □ 30 Nm

29 - O-ring

□ Replace after disassembly

30 - Nuts/bolts

- □ Replace after disassembly
- □ 22 Nm

1.2 Removing and installing exhaust gas turbocharger

⇒ "1.2.1 Removing and installing exhaust gas turbocharger, Fabia II, Roomster, Rapid India, Rapid NH", page 390

⇒ "1.2.2 Removing and installing exhaust gas turbocharger, Octument. Copyright by ŠKODA AUTO A. S. tavia II, Superb II, Yeti", page 396

1.2.1 Removing and installing exhaust gas turbocharger, Fabia II, Roomster, Rapid India, Rapid NH

Special tools and workshop equipment required

- Pliers for spring-type clips
- ♦ Key T10461-



Removing



Caution

In case a mechanical damage to the exhaust gas turbocharger is found, for example, damage to the compressor wheel, it is not sufficient to only replace the turbocharger. In order to prevent consequential damage to the engine, perform the following tasks:

- ♦ Clean all oil lines.
- Change engine oil and oil filter.
- Check air filter housing, air filter element and charge air pipes as well as charge air hoses for soiling.
- Check all the air guides and the charge air cooler for foreign bodies.

If foreign bodies are detected in the charge air system, the complete charge-air routing must be cleaned and if necessary the charge air cooler must also be replaced.

If damage to the exhaust gas turbocharger is evident, change the engine oil and engine oil filter.

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Note

- Observe rules for cleanliness *⇒ "3.1 Rules of cleanliness", page 7* .
- Observe general instructions for charge-air system <u>"3.6 General instructions for charge air system", page 8 .</u>

For vehicles Fabia II, Roomster, Rapid NH with engine identification characters CAYB, CAYC

Remove pre-exhaust pipe with diesel particle filter ⇒ "1.6 Removing and installing pre-exhaust pipe", page 525.

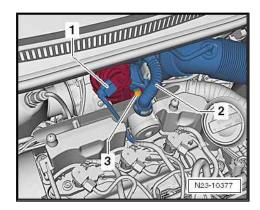
For vehicles Rapid India, Rapid NH with engine identification characters CLNA

Remove pre-exhaust pipe with catalytic converter ⇒ "1.6 Removing and installing pre-exhaust pipe", page 525.

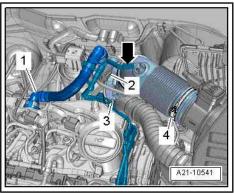
Continued for all vehicles

- Remove air filter housing with air mass meter G70-⇒ "3.5 Removing and installing air filter", page 479.
- Remove battery and battery tray ⇒ Electrical System; Rep. gr. 27.

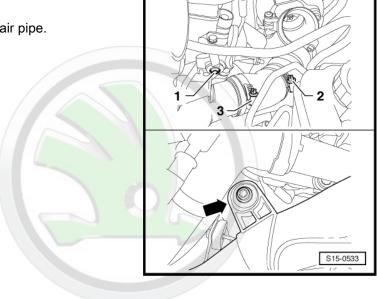
- Disconnect plug -1- from position sender for charge pressure regulator - G581- at exhaust gas turbocharger.
- Detach vacuum line at exhaust gas turbocharger.



- Remove the hose for the crankcase ventilation -1-, to do so press the release buttons.
- Slacken vacuum hose to intake hose.
- Release screw -3- (captive), swivel intake hose with connection fitting towards the rear and detach from exhaust gas turbocharger.
- Remove intake hose.



- Release the fixing screw -1- from the charge air pipe (if present), slacken the clamp -2-.
- Release fixing screw -arrow- from charge air pipe.





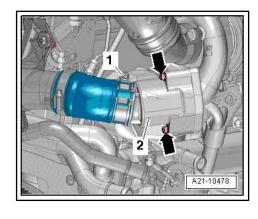
- Release the screws -arrows- and detach the connecting hose as far as possible from the pulsation dampener -2-.
- Push the left charge air pipe as far as possible to the left.
- Remove the pulsation dampener -2-.

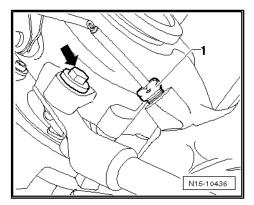


Caution

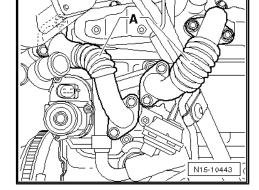
The exhaust gas temperature sender 1 - G235- covers the top bolted connection of the support for exhaust turbocharger.

- The exhaust gas temperature sender 1 G235- must not be bent.
- For this reason it must be removed.
- Remove exhaust gas temperature sender 1 G235- -1-⇒ "1.4 Removing and installing the exhaust gas temperature transmitter 1 G235 ", page 406 .

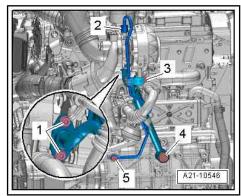




Remove connection pipes -A- to exhaust gas recirculation radiator.

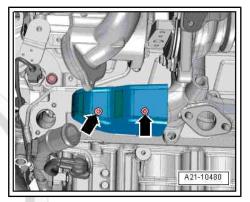


- Unscrew the union nut -2-. At the same time counterhold the hexagon of the connection fitting using the key - T10461-.
- Unscrew screws -1-, -3- and hollow screws -4-, -5- and remove the support for exhaust turbocharger with oil feed line.

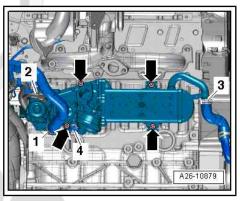




- Remove left heat shield on exhaust manifold.



 Unscrew the screws -arrows- at the exhaust gas recirculation radiator to pull out the exhaust manifold at the pin screws.



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Unscrew the nuts -arrows- and remove the exhaust gas turbocharger with exhaust manifold from the cylinder head.

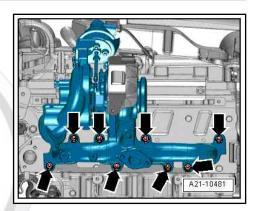
Installing

Assembly is carried out in the reverse order. When installing, observe the following:



Caution

Before installing, check if the decoupling element of the oil return-flow line is not bent and therefore is not overstretched. If this is the case, micro cracks resulting in leaks may be created. If necessary replace the oil return pipe before installing the exhaust gas turbocharger.





Note

- Replace the gaskets, the sealing rings and the self-locking
- Fill exhaust turbocharger with engine oil through the connection fitting of the oil feed line.
- Remove oil and grease from the charge air pipes and hoses and from their connections before installing.
- Secure all hose connections with corresponding hose clips not guarantee or accept any liability with respect to the correctness of hiormation in this document. Copyright by ŠKODA AUTO A. S.
- Checking the oil level:
- ⇒ Maintenance ; Booklet Fabia II .
- ⇒ Maintenance; Booklet Roomster.
- ⇒ Maintenance; Booklet Rapid Indie.
- ⇒ Maintenance ; Booklet Rapid NH .



Note

To ensure the oil supply to the exhaust gas turbocharger, leave the engine running for about 1 minute after installing the exhaust gas turbocharger.

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- Summary of components <u>"1.1.1 Summary of components - Exhaust gas turbocharger</u> with component parts, Fabia II, Roomster, Rapid India, Rapid NH", page 385.
- Summary of components ⇒ "2.1.1 Summary of components - Charge air cooler, Fabia II, Roomster, Rapid India, Rapid NH", page 409.
- Summary of components ⇒ "2.1.1 Summary of components - Exhaust gas recirculation with radiator for exhaust gas recirculation, Roomster, Rapid India, Rapid NH", page 547.

Summary of components ⇒ "1.3.1 Summary of components - oil feed line, oil return line and exhaust gas turbocharger support, Fabia II, Roomster, Rapid India, Rapid NH", page 207

1.2.2 Removing and installing exhaust gas turbocharger, Octavia II, Superb II, Yeti

Special tools and workshop equipment required

- Pliers for spring-type clips
- Radiator protection mat VAS 531003-

Removing



Caution

In case a mechanical damage to the exhaust gas turbocharger is found, for example, damage to the compressor wheel, it is not sufficient to only replace the turbocharger. In order to prevent consequential damage to the engine, perform the following tasks:

- Clean all oil lines.
- Change engine oil and oil filter.
- Check air filter housing, air filter element and charge air pipes as well as charge air hoses for soiling.
- ◆ Check all the air guides and the charge air cooler for foreign bodies.

If foreign bodies are detected in the charge air system, the complete charge-air routing must be cleaned and if necessary the charge air cooler must also be replaced.

If damage to the exhaust gas turbocharger is evident, change the engine oil and engine oil filter.

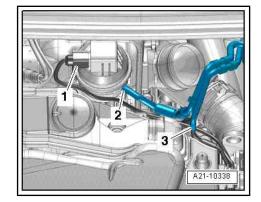


Note

- Observe rules for cleanliness *⇒ "3.1 Rules of cleanliness", page 7* .
- Observe general instructions for charge-air system *⇒ "3.6 General instructions for charge air system", page 8* .
- Remove pre-exhaust pipe with diesel particle filter in whole, is not permitted ⇒ "1.6 Removing and installing pre-exhaust pipe",
- Remove air filter housing with air mass meter G70- and intake hose ⇒ "3.5 Removing and installing air filter", page 479.



- Disconnect plug from position sender for charge pressure regulator - G581- -1- at exhaust gas turbocharger.
- Detach vacuum line -2- at exhaust gas turbocharger.
- Remove fan shroud with radiator fans ⇒ "4.3 Removing and installing fan shroud with radiator fan ", page 298 .

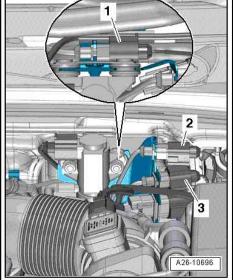


- Fit radiator protection mat - VAS 531003- to vehicle, as shown.



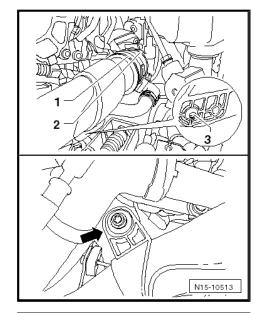
Disconnect plug connection -3- for exhaust gas temperature sender 1 - G235- and expose electrical cable.



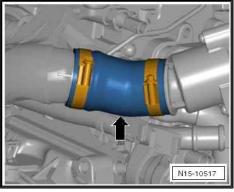




- Release the fixing screw -3- from the charge air pipe, slacken the clamp -1- or -2-.
- Release fixing screw -arrow- of charge air pipe.



- Detach the connecting hose -arrow- from the pulsation dampener.
- Push the left charge air pipe as far as possible to the left.



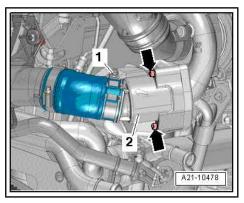
- Unscrew screws -arrows-.
- Remove the pulsation dampener -2-.

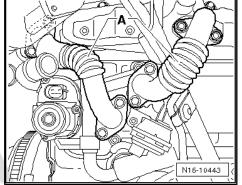


Caution

The exhaust gas temperature sender 1 - G235- covers the top bolted connection of the support for exhaust turbocharger and must not be bent. For this reason it must be removed.

- Remove exhaust temperature transmitter 1 G235 ⇒ "1.4 Removing and installing the exhaust gas temperature transmitter 1 G235", page 406
- Remove connection pipes -A- to exhaust gas recirculation radiator.

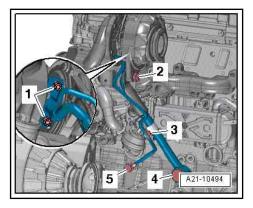




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Vehicles with front-wheel drive

Unscrew screws -1-, -2- and hollow screws -4-, -5- and remove the support for exhaust turbocharger with oil feed line.



Vehicles with four-wheel drive

- Remove right flange shaft from angle gearbox ⇒ Suspension; Rep. gr. 40.
- Release hollow screw -4-.
- Unscrew screws -2- and -3-.
- Push out support for exhaust gas turbocharger downwards.
- Unscrew screws -1-.
- Divert oil feed line from exhaust gas turbocharger. Do not slacken the hollow screw -5-.



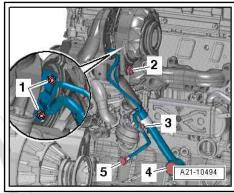
Note

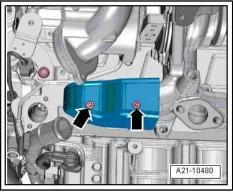
The oil feed line remains attached on the cylinder block. Otherwise the angle gearbox must be removed.

Continued for all vehicles

Release screws -arrows- and remove heat shield.









- Release nuts -arrows- of exhaust manifold.
- Remove exhaust turbocharger with exhaust manifold downwards, to do so slightly push the engine/gearbox assembly to the front.

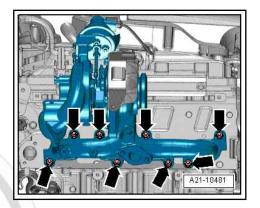
Installing

Assembly is carried out in the reverse order. When installing, observe the following:



Caution

Before installing, check if the decoupling element of the oil return-flow line is not bent and therefore is not overstretched. If this is the case, micro cracks resulting in leaks may be created. If necessary replace the oil return pipe before installing the exhaust gas turbocharger.





Note

- Replace the gaskets, the sealing rings and the self-locking nuts.
- Fill exhaust turbocharger with engine oil through the connection fitting of the oil feed line.
- ◆ Observe the assembly instruction for hose connections with screw clamps
 ⇒ "2.3 Hose connections with screw clamps", page 414
- Remove oil and grease from the charge air pipes and hoses and from their connections before installing.
- ♦ Secure all hose connections with corresponding hose clips and guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.
- Checking the oil level:
- ♦ ⇒ Maintenance ; Booklet Octavia II .
- ♦ ⇒ Maintenance ; Booklet Superb II .
- ♦ ⇒ Maintenance ; Booklet Yeti .



Note

To ensure the oil supply to the exhaust gas turbocharger, leave the engine running for about 1 minute after installing the exhaust gas turbocharger.

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- Summary of components
 ⇒ "1.1.2 Summary of components Exhaust gas turbocharger with component parts, Octavia II, Superb II, Yeti", page 388.
- Summary of components
 ⇒ "2.1.2 Summary of components Charge air cooler, Octavia II, Superb II, Yeti", page 410



- Summary of components
 - ⇒ "2.1.2 Summary of components Exhaust gas recirculation with radiator for exhaust gas recirculation, Octavia II, Superb II, Yeti", page 549
- Summary of components 1.3.2 Summary of components - oil feed line, oil return line and exhaust gas turbocharger support, Octavia II, Superb II, Yeti", page 209 .
- 1.3 Replace vacuum positioning element for charge pressure regulation with position sender for charge pressure regulator -G581-
- ⇒ "1.3.1 Replace vacuum positioning element for charge pressure regulation with position sender for charge pressure regulator G581, Fabia II, Roomster, Rapid India, Rapid NH", page 401
- 1.3.1 Replace vacuum positioning element for charge pressure regulation with position sender for charge pressure regulator -G581-, Fabia II, Roomster, Rapid India, Rapid NH



Note

- To replace the vacuum setting element with the position sender for charge pressure regulator - G581- the spare part set is offered ⇒ ETKA - Electronic Catalogue of Original Parts .
- The socket insert T10422 A- replaces the previous socket insert - T10422- . Existing socket inserts without index »A« can still be used.

Special tools and workshop equipment required

- Socket T10422-
- Socket T10422 A-
- Socket T10423-
- Hand vacuum pump, e.g. -VAS 6213-
- Turbocharger tester V.A.G 1397A-
- Hose binding claw VAS 6340-



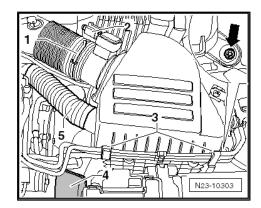
Caution

The predefined special tools, especially the Polydrive socket -T10422- or Polydrive socket - T10422 A- are designed exclusively for use based on the following work procedure and must not be used for other screw connections. There is the risk of deformations and slipping of the socket insert at higher tightening torques.

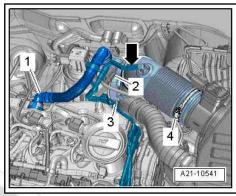
Removing

- Remove engine cover <u>"1.1 Removing and installing engine trim panel", page 11 .</u>
- Slacken vacuum hose to intake hose.

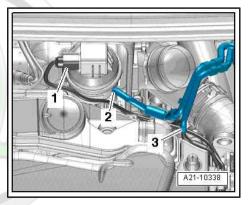
Loosen the spring strap clip -1- and remove the hose from the air filter.



- Remove the hose for the crankcase ventilation -1-, to do so press the release buttons.
- Release screw -3- (captive), swivel intake hose with connection fitting towards the rear and detach from exhaust gas turbocharger.
- Seal the opening on the exhaust gas turbocharger with a screw cap from the spare part set.

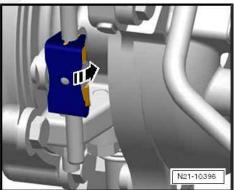


- Remove the vacuum hose -2- from the vacuum unit for charge pressure control.
- Slacken vacuum hose on the cylinder head cover from the mounting bracket.
- Open the heat-protection matting and disconnect the plug -1- on the position sender for charge pressure regulator -G581- .



Remove lock washer.





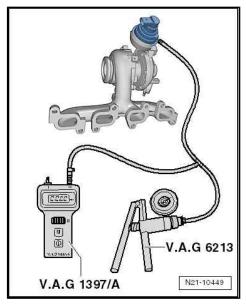
Vehicles with fully-functional vacuum adjustment



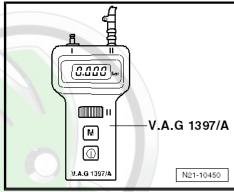
Note

To allow for the replacement of special tools, the control rod on the exhaust gas turbocharger must be put into a particular position.

 Connect the turbocharger tester - V.A.G 1397A- and hand vacuum pump - VAS 6213- to the dashpot of the exhaust gas turbocharger as shown.



- Adjust the turbocharger tester V.A.G 1397A- into position »II«.
- Connect vacuum hose to the connection »II« of the turbocharger tester - V.A.G 1397A- .



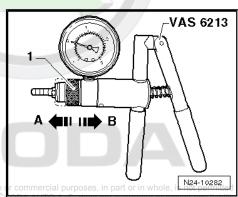
 3Put the sliding ring -1- of the hand vacuum pump - VAS 6213in position -A- for »vacuum«.



Caution

Use the hand vacuum pump - VAS 6213- to generate a max. vacuum of 0.08 MPa (0.8 bar).

Risk of damage to the pressure box from excessive vacuum.



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- Insert Polydrive socket T10422- or Polydrive socket T10422
 A- onto fixing nut -B-.
- Use the hand vacuum pump VAS 6213- to generate a vacuum of approx. 0.017 MPa (0.170 bar).
- Read off the vacuum on the turbocharger tester V.A.G 1397A- .
- Keep the vacuum constant.
- Insert Polydrive socket T10423- onto the locknut -A-.
- Hold the locknut -A- with Polydrive socket T10423- into place/ slacken.
- Undo fixing nut -B- with Polydrive socket T10422- and Polydrive socket T10422 A- from the control rod.
- Allow the vacuum to escape from the pressure box.
- Unscrew fixing nut -B- with Polydrive socket T10422- and Polydrive socket - T10422 A- from the control rod.

Vehicles with faulty vacuum adjustment



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To allow for the replacement of special tools, the control rod on the exhaust gas turbocharger must be put into a particular position.

- Insert Polydrive socket T10422- or Polydrive socket T10422
 A- onto fixing nut -B-.
- Press the control rod down using a suitable tool.
- Insert Polydrive socket T10423- onto the locknut -A-.
- Hold the locknut -A- with Polydrive socket T10423- into place/ slacken.
- Undo and unscrew fixing nut -B- with Polydrive socket -T10422- and Polydrive socket - T10422 A- from the control rod.

Continued for all vehicles

- Unscrew fixing screws on the pressure box -arrows-.
- Remove pressure box with position sender for charge pressure regulator G581- -A-.

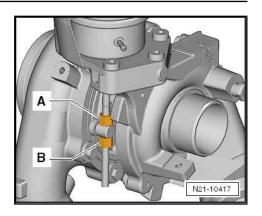
Installing

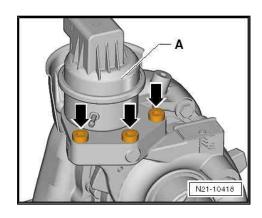


Caution

Only use new screws and nuts from the spare part set!

- Where necessary, remove the lower fixing nut on the control rod from the new socket.
- Screw the fixing nut by hand on the control rod in the direction of the pressure box as far as it will go.
- Pull the control rod through the adjuster lever on the exhaust gas turbocharger.





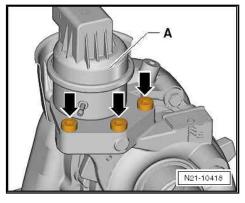
Fit pressure box with position sender for charge pressure regulator - G581- -A- and secure with screws.

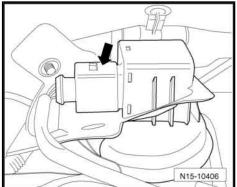


Note

Ensure that the operating lever moves smoothly on the control rod.

- Tighten screws -arrows- to 8 Nm.
- Screw lower fixing nut onto the control rod.
- Fit the plug -arrow- on the position sender for charge pressure regulator - G581- and close the heat-protection matting.

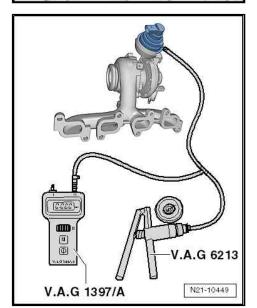




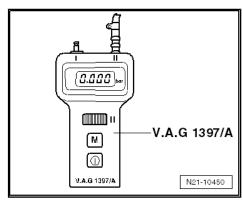
Connect the turbocharger tester - V.A.G 1397A- and hand vacuum pump - VAS 6213- to the pressure box of the exhaust turbocharger as shown.



This work step is used to activate the pressure box by vacuum.



- Adjust the turbocharger tester V.A.G 1397A- into position
- Connect vacuum hose to the connection »II« of the turbocharger tester - V.A.G 1397A- .





3Put the sliding ring -1- of the hand vacuum pump - VAS 6213in position -A- for »vacuum«.



Caution

Use the hand vacuum pump - VAS 6213- to generate a max. vacuum of 0.08 MPa (0.8 bar).

Risk of damage to the pressure box from excessive vacuum.

During the following setting of the control rod, maintain a steady vacuum and thus also a constant voltage.

VAS 6213 В N24-10282

Adjust the vacuum setting element for exhaust turbocharger

- Connect vehicle diagnostic tester.
- Choose Targeted fault finding
- Choose function Replace exhaust gas turbocharger pressure box
- Proceed according to the instructions on the vehicle diagnosis
- Set the voltage by turning the nuts -A- and -B-.

The adjuster lever is in the position »lower stop«.

Tighten the control rod on the exhaust gas turbocharger



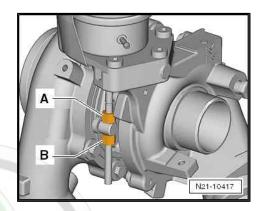
Note

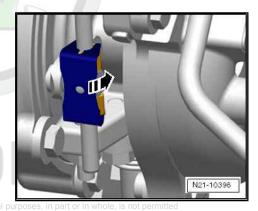
The control rod is tightened in Targeted fault finding

- Read off the vacuum on the turbocharger tester V.A.G 1397A- and keep constant.
- Observe the voltage in the vehicle diagnosis tester; this value should not change.
- Counterhold on the locknut -A- with Polydrive socket -T10423- .
- Tighten fixing nut -B- with Polydrive socket T10422- or -T10422 A- .
- Push the lock washer by hand onto the control rod.
- Use seal paint from the spare part set to seal the connection of the control rod/fixing nut.
- Remove screw cap from exhaust gas turbocharger.

Further assembly occurs in reverse order.

Continue using Targeted fault finding





1.4 Removing and installing the exhaust in this document. Copyright by SKODA AUTO A. S. gas temperature transmitter 1 - G235-

Special tools and workshop equipment required

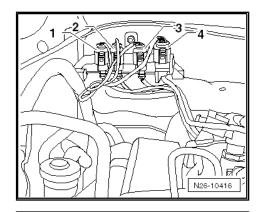


- ♦ Extension SW 7 from the set of tools T10395-
- ♦ Torque wrench V.A.G 1331-

Removing

For vehicles Fabia II, Roomster, Rapid NH with engine identification characters CAYB, CAYC

Disconnect plug connection -1- for exhaust gas temperature sender 1 - G235- and expose electrical cable.



For vehicles Octavia II, Superb II, Yeti

Disconnect plug connection -3- for exhaust gas temperature sender 1 - G235- and expose electrical cable.



For vehicles Rapid India, Rapid NH with engine identification characters CLNA

Disconnect plug connection -1- from exhaust gas temperature sender 1 - G235- and expose electrical cable.

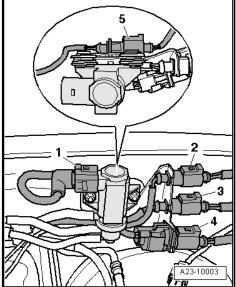


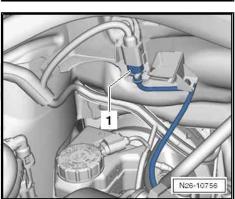
Note

Illustration for Rapid India vehicles:

Vehicles with four-wheel drive

Remove propshaft ⇒ Gearbox; Rep. gr. 39.





Continued for all vehicles

Unscrew the exhaust gas temperature sender 1 - G235- -1from the exhaust manifold using the extension SW 7 from the set of tools - T10395- .

Installing

Assembly is carried out in the reverse order. When installing, observe the following:



Note

- The thread of the new temperature sender must be coated with assembly paste.
- Grease only the thread with hot bolt paste G 052 112 A3- for re-used temperature sender.
- Fit all cable straps on again in the same place when installing.

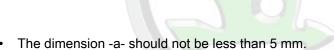


Caution

In this case, the setting of the torque wrench must be 28 Nm. The correct tightening torque of 45 Nm is reached by extending torque wrench with wrench out of the set of tools - T10395/7- .

- Screw in exhaust gas temperature sender 1 G235- by hand.
- Then set the recommended tightening torque with the torque wrench together with the wrench from the set of tools -T10395/7- .

Fitting position exhaust gas temperature sender 1 - G235-:

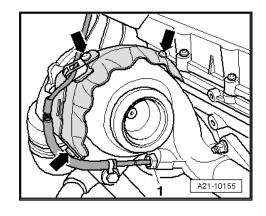


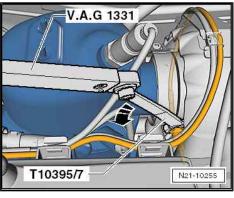
Tightening torques - summaries of components

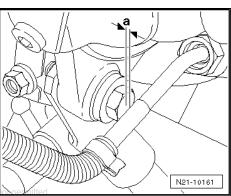
Exhaust gas temperature sender 1 - G235-"1.1 Summary of components - exhaust gas turbocharger with component parts", page 385.











2 Charge-air system

- ⇒ "2.1 Summary of components charge air cooler", page 409
- ⇒ "2.2 Removing and installing charge air cooler", page 412
- ⇒ "2.3 Hose connections with screw clamps", page 414
- ⇒ "2.4 Checking the charge-air system for leak-tightness", page 414
- ⇒ "2.5 Connection diagram for vacuum hoses", page 416
- ⇒ "2.6 Checking the vacuum system", page 418
- 2.1 Summary of components - charge air cooler
- ⇒ "2.1.1 Summary of components Charge air cooler, Fabia II, Roomster, Rapid India, Rapid NH", page 409
- \Rightarrow "2.1.2 Summary of components Charge air cooler, Octavia II, Superb II, Yeti", page 410
- 2.1.1 Summary of components - Charge air cooler, Fabia II, Roomster, Rapid India, Rapid NH



Note

Observe general instructions for charge-air system ⇒ "3.6 General instructions for charge air system", page 8.

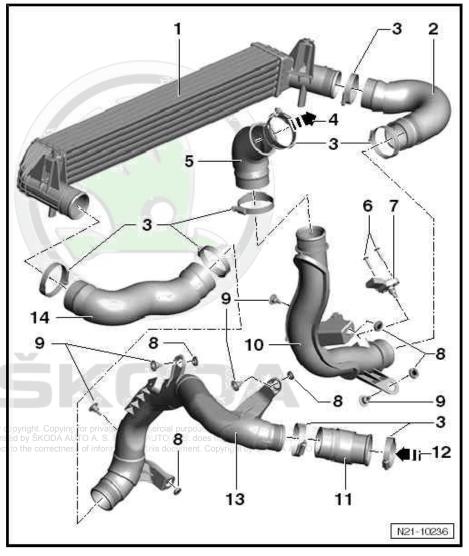






1 - Charge air cooler

- only remove together with radiator ⇒ "4.4 Removing and installing radiator", page 301
- 2 Right charge air hose
- 3 Screw clamp
 - □ 8 Nm
- 4 to throttle valve control unit - J338-
- 5 Connecting hose
- 6 Screw
 - □ 5 Nm
- 7 Charge pressure sender -G31- with intake air temperature sender - G42-
- 8 Rubber sleeve
 - ☐ Replace if damaged.
- 9 Screw
 - □ 10 Nm
- 10 Right charge air pipe
- 11 Connecting hose
- 12 from exhaust turbocharger
- 13 Left charge air pipe
 - Pay attention to the part number
- 14 Left charge air hose



2.1.2 Summary of components - Charge air cooler, Octavia II, Superb II, Yeti

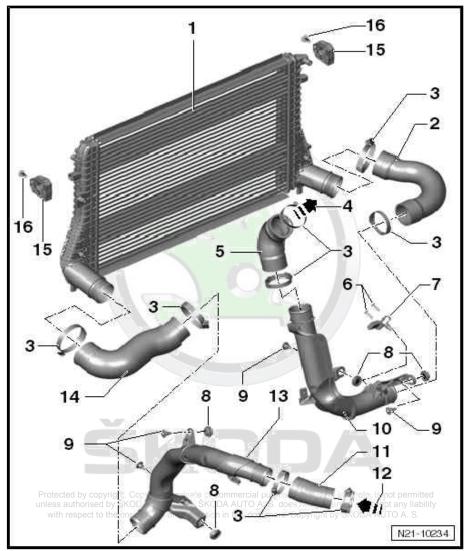


Note

- Observe general instructions for charge-air system *⇒ "3.6 General instructions for charge air system", page 8* .
- Observe tightening torques of screw clamps for hose connections
 - ⇒ "2.3 Hose connections with screw clamps", page 414.

1 - Charge air cooler

- □ Removing and installing ⇒ "2.2 Removing and installing charge air cooler", page 412
- 2 Right charge air hose
- 3 Screw clamp
 - □ 8 Nm
- 4 to throttle valve control unit - J338-
- 5 Connecting hose
- 6 Screw
 - □ 5 Nm
- 7 Charge pressure sender G31- with intake air temperature sender - G42-
- 8 Rubber sleeve
 - ☐ Replace if damaged.
- 9 Screw
 - □ 10 Nm
- 10 Right charge air pipe
- 11 Connecting hose
- 12 from exhaust turbocharger
- 13 Left charge air pipe
- 14 Left charge air hose
- 15 Storage
 - ☐ for charge air cooler
- 16 Screw
 - □ 10 Nm



2.2 Removing and installing charge air cooler

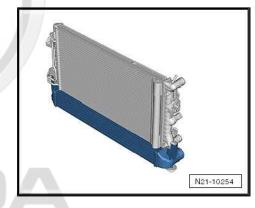
⇒ "2.2.1 Removing and installing charge air cooler, Fabia II, Roomster, Rapid India, Rapid NH", page 412

⇒ "2.2.2 Removing and installing charge air cooler, Octavia II, Superb II, Yeti", page 412

2.2.1 Removing and installing charge air cooler, Fabia II, Roomster, Rapid India, Rapid NH

The charge-air cooler is located below the radiator.

Only remove charge-air cooler together with radiator ⇒ "4.4 Removing and installing radiator", page 301.



2.2.2 Removing and installing charge air cooler, Octavia II, Superb II, Yeti DA AUTO A. S. does not guarantee or accept any liability

Removing

- Remove coolant radiator
 ⇒ "4.4 Removing and installing radiator", page 301
- Remove front bumper ⇒ Body Work; Rep. gr. 63.
- Remove the charge air hoses on the left and right from the charge air cooler.

On vehicles with air conditioning



WARNING

Do not open the refrigerant circuit of the air conditioning system.



Caution

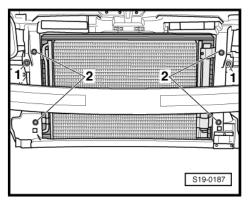
To prevent damage to condenser or to refrigerant lines/hoses, ensure that the lines and hoses are not stretched, kinked or bent.



- Screw out the fixing screws -2- of the condenser.

Continued for all vehicles

Unscrew fixing screws -1- for charge air cooler on right and



On vehicles with air conditioning

- Press off the charge air cooler from the lock carrier with the assistance of a 2nd mechanic so that the screw -1- for attaching the pipes of the air conditioning system to the radiator is accessible.
- Release screw -1-.

Continued for all vehicles

- Carefully remove radiator downwards.

Installing

Installation is carried out in the reverse order. When installing, observe the following:



Note

- ♦ Replace O-rings.
- Observe the mounting sequence for hose connections with screw clamps "2.3 Hose connections with screw clamps", page 414.

Tightening torques - summaries of components

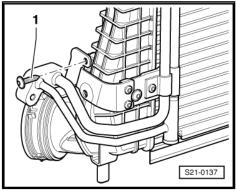


Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

Summary of components 2.1.2 Summary of components - Charge air cooler, Octavia II, Superb II, Yeti", page 410





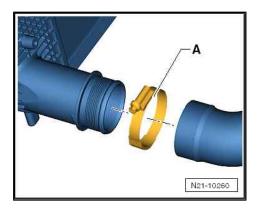


2.3 Hose connections with screw clamps



Note

- ♦ Connections, charge air pipes and hoses of charge air system must be free of oil and grease before being installed.
- ◆ Only install approved screw clamps for securing the hose connections ⇒ ETKA Electronic Catalogue of Original Parts .
- ♦ In order to secure the charge air hoses on their connection fittings, the threads must be treated with rust solvent if the screw clamps have been used beforehand.
- ♦ After a repair, check all the charge air pipes, charge air hoses and vacuum lines for tight connection and leaks.





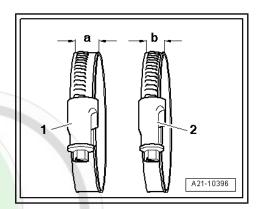
Caution

The screw clamps -A- on the charge air hoses must definitely be precisely tightened in accordance with the specifications ⇒ page 414.

A too low or on the contrary, a too high tightening torque of the screw clamps, may result in the charge air hose slipping off the fluted pipe or the charge air pipe while driving.

Tightening torques of screw clamps

Component	Nm
Screw clamp -a- = 12 mm	5.5 Nm
Screw clamp -b- = 9 mm	3 Nm



2.4 Checking the charge-air system for leak-tightness

Special tools and workshop equipment required

- ♦ Charge-air system testing device , e. g. -V.A.G 1687-
- Adapter , e.g. -V.A.G 1687/10-

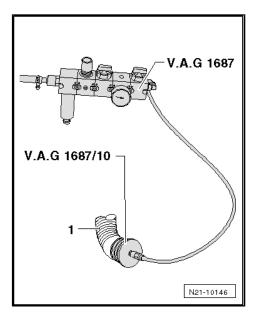


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Test sequence

- Remove the intake hose -1- from the air filter housing.
- Fit adapter 1687/10- into the intake hose -1- and secure with a clamp.

Prepare tester for charge air system - V.A.G 1687- as follows:

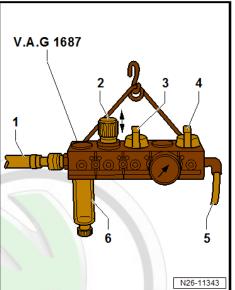


Unscrew pressure control valve -2- fully and close the valves -3- and -4-.

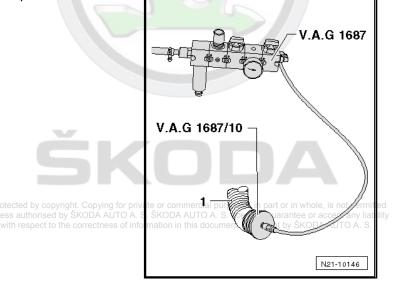


Note

The rotary knob must be pulled to the top in order to rotate the pressure control valve -2'-.



Connect tester - V.A.G 1687- as shown to adapter - 1687/10-.





Connect the pneumatic hose -1- (pneumatic support) at tester.



Note

If there is water in the transparent drain container, drain water via the drain plug -6-.

- Open valve -3-.
- Set the pressure to 0.05 MPa (0.5 bar) with the pressure control valve -2-.



Caution

The pressure must not be greater than 0.05 MPa (0.5 bar)! A too high pressure can damage the engine.

- Open valve -4- and wait until the test circuit is filled. If necessary, re-adjust the pressure to 0.05 MPa (0.5 bar).
- Listen to, touch or use commercially available leak search spray or the ultrasonic measuring device e. g. -V.A.G 1842- to check the charge-air system with exhaust gas turbocharger for leak points.



Note

- Minor leaks are permissible on the suction side of the turbocharger, because the intake hoses are not designed for overpressure.
- A small amount of air escapes via the valves into the engine.
 For this reason no pressure test is possible.
- ♦ Using the ultrasonic tester V.A.G 1842- ⇒ Owner's Manual .
- In case of a leak point, observe the instructions for charge air system
 ⇒ "3.6 General instructions for charge air system", page 8 dur-

ing the installation.

Before removing the adapter, depressurize the test circuit by detaching the coupling from the adapter - 1687/10-.

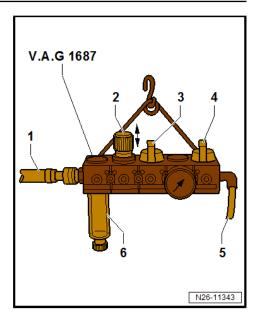
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2.5 Connection diagram for vacuum hoses

⇒ "2.5.1 Connection diagram for vacuum hoses, Fabia II, Roomster, Rapid India, Rapid NH", page 416

⇒ "2.5.2 Connection diagram for vacuum hoses, Octavia II, Superb II, Yeti", page 418

2.5.1 Connection diagram for vacuum hoses, Fabia II, Roomster, Rapid India, Rapid NH



1 - Vacuum setting element

for changeover of radiator for exhaust gas recirculation

2 - Non-return valve

- ☐ Check fitting position
- ☐ Dark side pointing towards the vacuum pump -Pos. 7-

3 - Changeover valve for radiator of exhaust gas recirculation - N345-

☐ Check change-over ⇒ "2.3 Check changeover of radiator for exhaust gas recirculation", page 555

4 - Cylinder head cover

with integrated vacuum reservoir

5 - Vacuum setting element

- ☐ at exhaust gas turbocharger
- ☐ for position transmitter for charge pressure regulator - G581-

6 - Solenoid valve for charge pressure control - N75-

7 - Vacuum pump

8 - intake hose

□ with connecting piece for vent line

3 S21-0157



2.5.2 Connection diagram for vacuum hoses, Octavia II, Superb II, Yeti

1 - Vacuum setting element

for changeover of radiator for exhaust gas recirculation

2 - Non-return valve

- Check fitting position
- Dark side pointing towards the vacuum pump -Pos. 7-

3 - Changeover valve for radiator of exhaust gas recirculation - N345-

□ Check change-over ⇒ "2.3 Check changeover of radiator for exhaust gas recirculation", page 555

4 - Cylinder head cover

with integrated vacuum reservoir

5 - Vacuum setting element

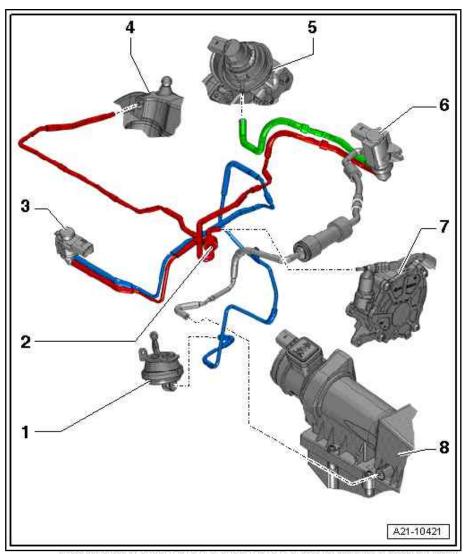
- at exhaust gas turbocharger
- for position transmitter for charge pressure regulator - G581-

6 - Solenoid valve for charge pressure control - N75-

7 - Vacuum pump

8 - Air filter housing

□ with connecting piece for vent line



2.6 Checking the vacuum system



Caution

When routing the vacuum lines, make sure that the lines are not kinked, twisted or crimped. Otherwise this can lead to breakdown.

Special tools and workshop equipment required

- Hand vacuum pump, e.g. -VAS 6213-
- Remove engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11.

Check supply line, vacuum reservoir and non-return valve:

Unclip the changeover valve for radiator of exhaust gas recirculation - N345- from the front bracket at the intake manifold.



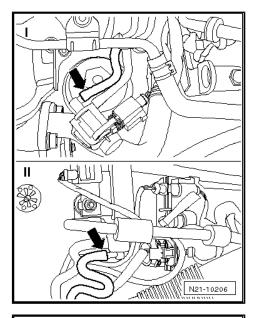
- Remove vacuum hose on lower connection arrow in -l- from the Changeover valve for radiator of exhaust gas recirculation - N345- and from the pressure control solenoid valve - N75arrow in -II-.
- Close off the open hose ends with suitable dummy plugs.



Note

Do not use any thread screws or thread bolts.

Remove the vacuum hose -arrow- at the connection fitting of the vacuum pump.



- Attach the hand vacuum pump VAS 6213- to the detached hose and generate a vacuum of 0.06 MPa (0.6 bar).
- Observe the pressure gauge of the hand vacuum pump for approx. 30 seconds.
- The vacuum must not drop.

If the vacuum drops:

Search for damage, for example a leaky connection in the hose line, and replace the corresponding part.

If the vacuum does not drop:

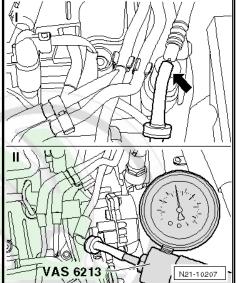
- First of all, detach the hose at the hand vacuum pump VAS 6213-.
- Remove one of the dummy plugs from the hose ends.

If the non-return valve is functional, a significant spluttering can now be heard when the vacuum is suctioned off in the vacuum reservoir.

If no spluttering can be heard:

- Replace non-return valve.
- Re-connect all vacuum hoses.

Check the control line to the exhaust turbocharger







- Detach the hose on the middle connection arrow in -I- of the charge pressure control solenoid valve - N75- and on the vacuum setting element of the exhaust gas turbocharger arrow in -II-.
- Close one opening of the hose with a suitable dummy plug.



Note

Do not use any thread screws or thread bolts.

- Attach the hand vacuum pump VAS 6213- to the other end of the hose and generate a vacuum of 0.06 MPa (0.6 bar).
- Observe the pressure gauge of the hand vacuum pump for approx. 30 seconds.
- · The vacuum must not drop.

If the vacuum drops:

Replace vacuum hose.

Check the control line to the vacuum setting element for switching over the radiator for the exhaust gas recirculation

- Detach the hose on the middle connection of the exhaust gas recirculation radiator change-over valve - N345- -arrow-.
- Attach the hand vacuum pump VAS 6213- to the detached hose and generate a vacuum of 0.06 MPa (0.6 bar).
- Observe the pressure gauge of the hand vacuum pump for approx. 30 seconds.
- · The vacuum must not drop.

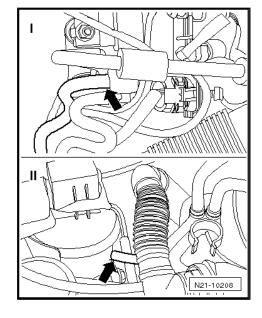
If pressure drops:

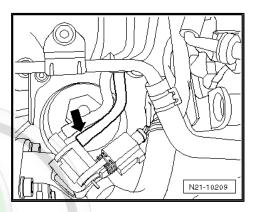
- Detach the vacuum hose on the vacuum setting element for switching over the radiator for exhaust gas recirculation.
- Attach the hand vacuum pump VAS 6213- with the factorydelivered test hose to the vacuum unit and generate a vacuum of 0.06 MPa (0.6 bar).



Note

- ◆ The adjustment on the vacuum setting element must be noticeable and the vacuum must not drop. If this is not the case, replace the exhaust gas recirculation radiator ⇒ "2.2 Removing and installing radiator for exhaust gas recirculation", page 551.
- If no defect can be found on the vacuum setting element, replace the vacuum line of the changeover valve for radiator of exhaust gas recirculation - N345-.





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Mixture preparation - injection 23 –

Injection system

- ⇒ "1.1 Installation location overview", page 421
- ⇒ "1.2 System overview", page 426
- ⇒ "1.3 Filling/bleeding the fuel system", page 429
- ⇒ "1.4 Removing and installing the engine speed transmitter G28 ', page 429

1.1 Installation location overview

- ⇒ "1.1.1 Installation location overview, Fabia II, Roomster, Rapid India, Rapid NH", page 421
- ⇒ "1.1.2 Installation location overview, Octavia II, Superb II, Yeti", page 423

1.1.1 Installation location overview, Fabia II, Roomster, Rapid India, Rapid NH

The control unit is equipped with event memory. Before repairs, setting operations and fault finding, query the event memory and run self-diagnosis ⇒ Vehicle diagnostic tester.



Note

- Faults can be detected by the control unit as checking and adjustment work is being undertaken and then saved. It is therefore essential to always delete the event memory after completing all checking and adjustment work ⇒ Vehicle diagnostic tester.
- Observe the safety precautions when working on the diesel direct injection system ⇒ "2 Safety instructions", page 3.



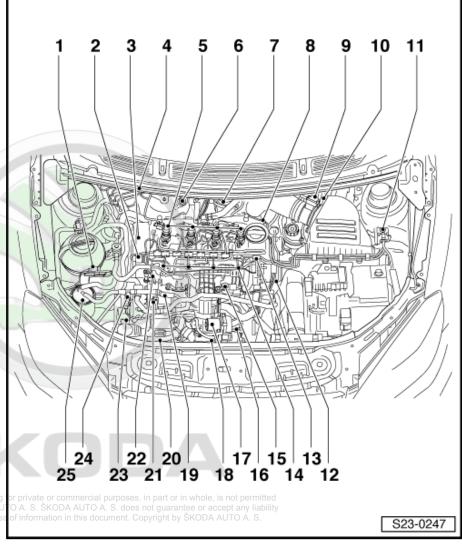


1 - Differential pressure transmitter - G505-

- only for vehicles Fabia II, Roomster, Rapid NH with engine identification characters CAYB, CAYC
- 2 Fuel pressure transmitter -G247-
- 3 Hall sender G40- (camshaft position sensor)

4 - Connector

- for exhaust gas temperature sender 4 - G648-, only for vehicles Fabia II, Roomster, Rapid NH with engine identification characters CAYB, CAYC
- for exhaust gas temperature sender 1 - G235-(Temperature sender upstream turbocharger -G507-)
- for Lambda probe -G39-, only for vehicles Fabia II, Roomster, Rapid NH with engine identification characters CAYB, CAYC
- 5 Injection units (Piezo injectors)
- 6 for lambda probe G39-pyi with heating for lambda probe - Z19
 - only for vehicles Fabia II, Roomster, Rapid NH with engine identification characters CAYB, CAYC
- 7 Position transmitter for charge pressure regulator G581
 - only for vehicles Fabia II, Roomster, Rapid NH
- 8 Exhaust gas return valve N18
 - consists of:
- mechanical valve (electrically operated)
- Exhaust gas recirculation control motor V338-
- Exhaust gas recirculation potentiometer G212-
- 9 Air mass meter G70-
- 10 Engine control unit
- 11 Solenoid valve for charge pressure control N75-
- 12 Intake manifold flap motor V157
 - only on vehicles with intake manifold flap ⇒ "3.1.1 Summary of components - intake manifold with component parts, vehicles with intake manifold flap V157 ", page 465
 - the function is not used



- 13 Control valve for fuel pressure N276-
- 14 Glow plugs
 - ☐ Glow plug 1 Q10-
 - ☐ Glow plug 2 Q11-
 - ☐ Glow plug 3 Q12-
 - ☐ Glow plug 4 Q13-
- 15 Changeover valve for radiator of exhaust gas recirculation N345-
- 16 Engine speed transmitter G28-
 - □ Removing and installing ⇒ "1.4 Removing and installing the engine speed transmitter G28", page 429
- 17 Throttle valve control unit J338-
- 18 Coolant recirculation pump 2 V178-
 - □ not present on vehicles with engine identification characters CWXB, CWXC
- 19 Connection of fuel feed line from fuel filter
- 20 Charge pressure sender G31- with intake air temperature sender G42-
- 21 High pressure pump with fuel dosage valve N290-
- 22 Connection of fuel feed line (high pressure line)
- 23 Coolant temperature sender at radiator outlet G83-
- 24 Fuel temperature transmitter G81-
- 25 Fuel filter

1.1.2 Installation location overview, Octavia II, Superb II, Yeti

The control unit is equipped with event memory. Before repairs, setting operations and fault finding, query the event memory and run self-diagnosis ⇒ Vehicle diagnostic tester.



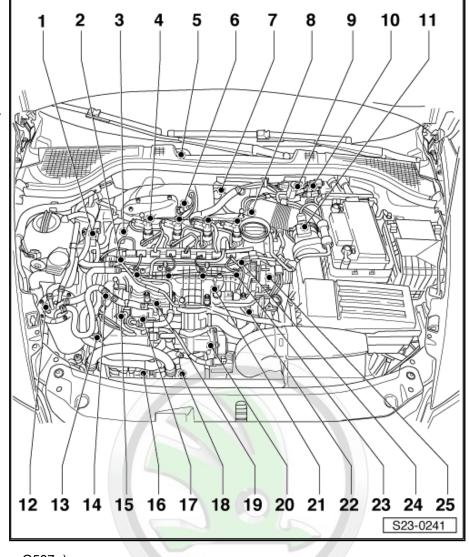
Note

- ♦ Faults can be detected by the control unit as checking and adjustment work is being undertaken and then saved. It is therefore essential to always delete the event memory after completing all checking and adjustment work ⇒ Vehicle diagnostic tester.
- Observe the safety precautions when working on the diesel direct injection system ⇒ "2 Safety instructions", page 3.





- 1 Differential pressure transmitter G505-
- 2 Fuel pressure transmitter G247-
- 3 Hall sender G40- (camshaft position sensor)
- 4 Injection units (Piezo injectors)
- 5 Engine control unit
- 6 for lambda probe G39with heating for lambda probe - Z19-
- 7 Position transmitter for charge pressure regulator G581-
- 8 Exhaust gas return valve N18
 - consists of:
- mechanical valve (electrically operated)
- Exhaust gas recirculation control motor - V338-
- Exhaust gas recirculation potentiometer - G212-
- 9 Solenoid valve for charge pressure control N75-
- 10 Connector
 - ☐ Exhaust gas temperature sender 4 G648-
 - Exhaust gas temperature sender 1 G235-(Temperature sender upstream of turbocharger - G507-)
 - ☐ Lambda probe G39-
- 11 Air mass meter G70-
- 12 Fuel filter
- 13 Coolant temperature sender at radiator outlet G83-
- 14 Fuel temperature transmitter G81-
- 15 High pressure pump with fuel dosage valve N290-
- 16 Charge pressure sender G31- with intake air temperature sender G42-poses, in part or in whole, is not permitted
- 17 Connection of fuel feed line (high pressure line) correctness of information in this document. Copyright by ŠKODA AUTO A. S.
- 18 Coolant recirculation pump 2 V178-
- 19 Connection of fuel feed line from fuel filter
- 20 Throttle valve control unit J338-
- 21 Changeover valve for radiator of exhaust gas recirculation N345-
- 22 Engine speed transmitter G28-
- 23 Glow plugs
 - ☐ Glow plug 1 Q10-
 - ☐ Glow plug 2 Q11-





- ☐ Glow plug 3 Q12-
- ☐ Glow plug 4 Q13-
- 24 Control valve for fuel pressure N276-
- 25 Intake manifold flap motor V157
 - only on vehicles with intake manifold flap ⇒ "3.1.1 Summary of components - intake manifold with component parts, vehicles with intake manifold flap V157", page 465
 - ☐ the function is not used





1.2 System overview

⇒ "1.2.1 System overview, Fabia II, Roomster, Rapid India, Rapid NH", page 426

⇒ "1.2.2 System overview, Octavia II, Superb II, Yeti", page 428

1.2.1 System overview, Fabia II, Roomster, Rapid India, Rapid NH



WARNING

Absolutely observe the safety precautions when working on the diesel direct injection system <u>"2 Safety instructions", page 3</u> .

1 - Fuel dosage valve - N290-

2 - High pressure pump

Removing and installing "2.8 Removing and installing the high pressure pump", page 450

3 - Fuel pressure transmitter -G247-

□ Removing and installing ⇒ "2.7 Removing and installing fuel pressure sender G247", page 448

4 - Fuel distributor

5 - Control valve for fuel pressure - N276-

- replace after each removal
- Check ⇒ "2.10 Check fuel pressure regulating valve N276", page 457
- □ Removing and installing ⇒ "2.6 Replace fuel pressure regulating valve N276", page 446

6 - Injection unit (Piezo injector)

Removing and installing ⇒ "2.3 Removing and installing injection unit (piezo injector)", page 436

☐ Testing the vacuum ⇒ "2.12 Carry out the vacuum test of the injection units", page 461

5 2 3 8 6 10 11 N23-10470

7 - Fuel return-flow line

- must be replaced completely
- the fuel return-flow line must not be disassembled; the return-flow line must only be replaced complete mitted with pressure holding valve



8 - Pressure holding valve

- ☐ The pressure holding valve in the fuel return-flow line has the function to always hold a remaining pressure (control quantity) of approx. 0.1 MPa (1 bar). The injection units (piezo injectors) require this control quantity for their function.
- the fuel return-flow line must not be disassembled; the pressure holding valve must only be replaced complete with the return-flow line
- after replacing, the engine must run at idling speed for approx. 2 minutes in order to vent the fuel system
- □ Check ⇒ "2.13 Check the pressure holding valve in the fuel return-flow line", page 463.

9 - Fuel tank

☐ Removing and installing ⇒ "2.11 Removing and installing the fuel tank", page 347

10 - Preheating valve

- only for vehicles Fabia II, Roomster, Rapid NH
- □ Connect ⇒ "2.2.1 Summary of components fuel filter, Fabia II, Roomster, Rapid NH", page 321

☐ Removing and installing ⇒ "2.2 Summary of components - fuel filter", page 321





1.2.2 System overview, Octavia II, Superb II, Yeti



WARNING

Absolutely observe the safety precautions when working on the diesel direct injection system ⇒ "2 Safety instructions", page 3.

- 1 Fuel tank
- 2 Fuel filter

3 - High pressure pump

- □ Removing and installing ⇒ "2.8 Removing and installing the high pressure pump", page 450
- 4 Fuel dosage valve N290-
- 5 Fuel pressure transmitter G247-
 - □ Removing and installing ⇒ "2.7 Removing and installing fuel pressure sender G247", page 448

6 - Fuel distributor

□ Removing and installing ⇒ "2.4 Removing and installing the fuel distributor", page 440

7 - Control valve for fuel pressure - N276-

- with moval the correctness of inform
- □ Check
 ⇒ "2.10 Check fuel pressure regulating valve
 N276", page 457.
- □ Removing and installing ⇒ "2.6 Replace fuel pressure regulating valve N276", page 446

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8 - Fuel return-flow line with pressure holding valve

- ☐ The pressure holding valve has the function to always hold a remaining pressure (control quantity) of approx. 0.1 MPa (1 bar) in the fuel return-flow line. The injection units (piezo injectors) require this control quantity for their function.
- □ the fuel return-flow line must not be disassembled
- must be replaced completely
- after replacing, the engine must run at idling speed for approx. 2 minutes in order to vent the fuel system
- □ Check ⇒ "2.13 Check the pressure holding valve in the fuel return-flow line", page 463.

9 - Injection units (Piezo injectors)

- □ Removing and installing ⇒ "2.3 Removing and installing injection unit (piezo injector)", page 436
- ☐ Testing the vacuum ⇒ "2.12 Carry out the vacuum test of the injection units", page 461

10 - Fuel temperature transmitter - G81-

1.3 Filling/bleeding the fuel system



Caution

In order to prevent the high pressure pump from running dry (very narrow tolerances) and to achieve a quick engine start after parts are replaced, the following must be observed:

♦ If fuel system between tank and pump parts/components have been removed or replaced the fuel system must be filled/bled before the engine is started up for the first time. The high pressure pump must not run dry.

In order to fill up the high pressure pump with fuel, proceed as follows:

- Vehicle must be refuelled.
- Connect vehicle diagnosis tester and switch on ignition syspermitted
- Perform bleed fuel tank targeted function.
- The fuel pump must run for approximately 180 seconds to ensure that the pump is sufficiently filled with fuel.
- After filling the fuel system, start the engine.
- Run the engine at medium speed for several minutes, then turn it off again.
- Test fuel system for tightness ⇒ "2.9 Check the fuel system for tightness", page 457
- Delete event memory entry with Vehicle diagnosis tester.
- Afterwards, carry out a test drive with at least one full load acceleration.
- Then check the high-pressure system again for air-tightness.



Note

If air is still present in the fuel system the engine may enter dryrunning operation during the test drive. Switch off engine and delete the event memory. Then proceed with the test drive.

Interrogate the event memory again ⇒ Vehicle diagnostic test-

1.4 Removing and installing the engine speed transmitter - G28-

Special tools and workshop equipment required

- ♦ Socket T10370-
- ◆ Assembly tool T10118-

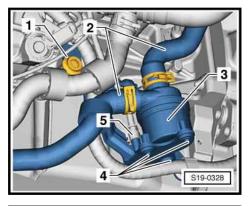
Removing

Remove the sound dampening system ⇒ Body Work; Rep. gr. 50.



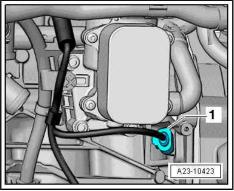
For vehicles Fabia II, Roomster, Rapid India, Rapid NH

 Undo screws -4- and secure coolant recirculation pump 2 -V178- -3- with connected hoses to the right on the side (where present).



Continued for all vehicles

 Disconnect the plug -1- on the engine speed sender - G28with the assembly device - T10118- and lay the electrical cable to the side.



Unscrew the fixing screw -arrow- of the engine speed sender
 G28- and pull out the sender.

Installing

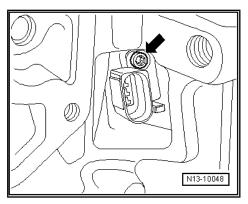
Assembly is carried out in the reverse order. When installing, observe the following:

For vehicles Fabia II, Roomster, Rapid India, Rapid NH

Install coolant recirculation pump 2 - V178 ⇒ "3.1 Summary of components - coolant pipe", page 272

Tightening torques - summaries of components

- ◆ Engine speed sender G28-⇒ "2.1 Summary of components - sealing flange and flywheel", page 120.
- Coolant recirculation pump 2 V178 ⇒ "3.1 Summary of components coolant pipe", page 272 .





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2 Fuel system, engine side

- ⇒ "2.1 Assembly overview fuel system", page 431
- ⇒ "2.2 Summary of components and fitting position of the clamping claw - injection units (piezo injectors)", page 435
- ⇒ "2.3 Removing and installing injection unit (piezo injector)", page 436
- ⇒ "2.4 Removing and installing the fuel distributor", page 440
- ⇒ "2.5 Removing and installing high pressure lines", page 442
- ⇒ "2.6 Replace fuel pressure regulating valve N276", page 446
- ⇒ "2.7 Removing and installing fuel pressure sender G247", page
- ⇒ "2.8 Removing and installing the high pressure pump", page 450
- ⇒ "2.9 Check the fuel system for tightness", page 457
- ⇒ "2.10 Check fuel pressure regulating valve N276", page 457
- ⇒ "2.11 Checking return flow quantity of injection units", page 459
- ⇒ "2.12 Carry out the vacuum test of the injection units", page 461
- ⇒ "2.13 Check the pressure holding valve in the fuel return-flow line", page 463

2.1 Assembly overview - fuel system



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.



Caution

In order to avoid the high pressure pump to run dry and to achieve a quick engine start after parts are replaced, the following points must be observed:

- If the high pressure pump is removed or replaced, the initial fuel filling of the high pressure pump must be carried out before the first engine start
 - "1.3 Filling/bleeding the fuel system", page 429
- If the high pressure system was opened, it must be checked for tightness
 - > "2.9 Check the fuel system for tightness", page 457.



1 - Fuel return-flow lines



Caution

A new connection for the fuel return pipe is used continuously. Observe instructions safety

- to fuel tank
- □ Fuel return-flow lines must not be kinked, damaged or blocked
- □ Fuel return-flow lines must not be disassembled
- □ The pressure holding valve has the task to always hold a remaining pressure (control quantity) in the fuel returnflow lines
- □ Check the pressure holding valve ⇒ "2.13 Check the pressure holding valve in the <u>fuel return-flow line"</u>, page 463
- □ Assignment ⇒ ETKA -Electronic Catalogue of **Original Parts**

2 - Control valve for fuel pressure - N276-

- □ replace after each removal
- - ⇒ "2.10 Check fuel pressure regulating valve N276", page 457
- □ Removing and installing ⇒ "2.6 Replace fuel pressure regulating valve N276", page 446
- □ 80 Nm

3 - Fuel return-flow line

□ Assignment ⇒ ETKA - Electronic Catalogue of Original Parts

4 - Screw

□ 10 Nm

5 - High pressure pump

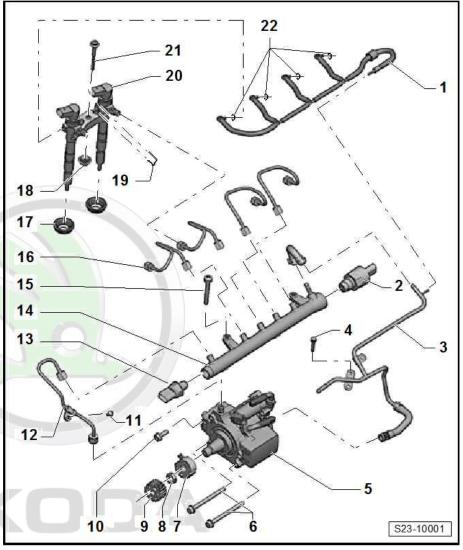
- □ Removing and installing ⇒ "2.8 Removing and installing the high pressure pump", page 450
- with fuel dosage valve N290-
- ☐ an initial fuel filling must be carried out after the replacement (absolutely avoid it to run dry) ⇒ Vehicle diagnostic tester
- ☐ Assignment ⇒ ETKA Electronic Catalogue of Original Parts

6 - Screw

- □ Replace after disassembly
- ☐ 20 Nm + 180°

7 - Hub

- with transmitter ring
- □ to release and tighten use counterholder T10051-



	to remove use extractor - T40064-								
8 - Nu	t								
	95 Nm								
9 - Tir	ning belt gear - high pressure pump								
	Replace screws after disassembly								
	Tightening torque 20 Nm								
	10 - Screw								
	□ Replace after disassembly□ 20 Nm + 45°								
11 - S									
	10 Nm								
12 - H	igh pressure line								
	between the high pressure pump and the fuel distributor								
	do not install under tension								
	installing ⇒ "2.5 Removing and installing high pressure lines", page 442								
	When replacing the high pressure pump, also replace the high pressure line								
	15 Nm + 60°								
i	Note								
	◆ The high pressure line can be								
	reused after the following tests:								
	 Check the sealing cone of the high pressure line for deforma- tions and cracks. 								
	♦ The line borings must not be deformed, constricted or damaged.								
	♦ Corroded lines must no longer be used.								
13 ₋ E	uel pressure transmitter - G247-								
	Removing and installing ⇒ "2.7 Removing and installing fuel pressure sender G247", page 448								
	100 Nm								
_	uel distributor								
	Removing and installing <u>⇒ "2.4 Removing and installing the fuel distributor", page 440</u> Assignment ⇒ ETKA - Electronic Catalogue of Original Parts								
15 - S									
	22 Nm								
	igh pressure lines								
	between fuel distributor and injection units								
	Do not interchange								
_	install free of stress								
	Removing and installing <u>⇒ "2.5 Removing and installing high pressure lines"</u> , page 442								
<u> </u>	15 Nm + 60°								
i Note									
	◆ Pay attention to the cylinder spe- cific marking when re-using the AUTO A. S. SKODA AUTO A. S. does not guarantee or accept any liability high pressure lines: pect to the correctness of information in this document. Copyright by SKODA AUTO A. S.								
	♦ The high pressure line can be reused after the following tests:								

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- Check the sealing cone of the high pressure line for deformations and cracks.
- ♦ The line borings must not be deformed, constricted or damaged.
- Corroded lines must no longer be used.

1	7	_	Sea	alin	a	rin	_
	•	-	00	alli	u	1111	u

□ replace after removal ⇒ "1.4 Replacing sealing rings for injection units", page 159

18 - Seal

19 - Retaining clip for return-flow lines

- □ Replace after disassembly
- ☐ Lightly grease the retaining clip before installing the injector

20 - Injection units (Piezo injectors)

- □ Removing and installing ⇒ "2.3 Removing and installing injection unit (piezo injector)", page 436
- ☐ Check return flow quantity ⇒ "2.11 Checking return flow quantity of injection units", page 459
- ☐ Testing the vacuum ⇒ "2.12 Carry out the vacuum test of the injection units", page 461
- ☐ The following components and seals/O-rings must be replaced each time after removing and installing: copper disc, O-ring from injector shaft, O-ring from injector return, screw for clamping claw, retaining clip for return lines
- The following components and seals/O-rings must be replaced each time an injector is replaced: copper disc, O-ring from injector shaft, O-ring from injector return, screw for clamping claw, retaining clip for return lines
- ☐ Before re-using the "high pressure line", carry out a visual inspection of the sealing cones for damage such as cross chamfers and corrosion, always replace if damaged.
- ☐ Removed injection units (piezo injectors), high pressure lines and clamping claws, which are re-installed, may only be installed again at the same point (cylinder)

21 - Screw for clamping claw



Note

If the stripped engine is replaced the tightening of the screw of the injection unit clamping claws must be checked on the new stripped engine.

□ Replace after disassembly

first of all tighten the fixing screws to MAX: 1 - 2 Nm

After installing the high pressure lines, tighten to 8 Nm + 270°

22 - O-ring

- Replace after disassembly
- □ Removing and installing ⇒ page 434

Remove O-rings for fuel return-flow lines

Proceed with utmost care. Avoid damage to the fuel return-flow line.

Lever off the old O-ring from the fuel, return-flow line with ex-o A. S. does not guarantee or accept any liability treme care.

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Do not use a sharp-edged tool. We recommend you use plastic tools.



Install O-rings for fuel return-flow lines



Caution

A new connection for the fuel return pipe is used continuously. When replacing O-rings, observe the correct assignment of the components. New return-flow line is noticeable in the connections at the recess -arrow-. You must fit orange O-rings here ⇒ ETKA - Electronic Catalogue of Original Parts . Mixed installation is not permitted and leads to leaks, with failure as a result.

A - Use the connection of the »new« fuel return-flow line, with the recess, and orange O-ring.

B - Use the connection of the »old« fuel return-flow line, without the recess, and green O-ring.

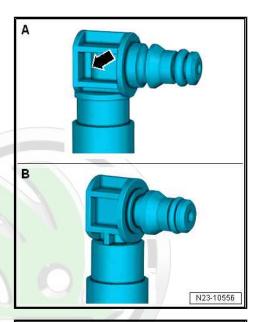


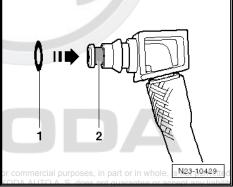
Note

Avoid rolling the O-rings when sliding them on. The O-rings must not be turned inwards on the seat of the fuel return-flow line.

Proceed with utmost care. Avoid damage to the fuel return-flow

- Clean the seating surfaces for the O-rings on the fuel returnflow line with great care.
- Carefully slide the O-Ring -1- into its seat -2-.





2.2 Summary of components and fitting position of the clamping claw - injection units (piezo injectors)



Caution

When installing a new stripped engine and after fitting the high pressure lines, it is absolutely necessary to tighten the screws -position 2- for the clamping claws of the injection units to the specified tightening torque. In order to align the injection units when fitting the high pressure lines, the clamping claws of the stripped engine are only tightened in series »by hand«. If the screws of the clamping claws are not tightened to the specified tightening torque, the engine may be damaged.





Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

1 - Injection unit (Piezo injector)

- □ Removing and installing ⇒ "2.3 Removing and installing injection unit (piezo injector)", page 436
- □ Check return flow quantity
 ⇒ "2.11 Checking return flow quantity of injection units", page 459
- ☐ Testing the vacuum

 ⇒ "2.12 Carry out the

 vacuum test of the injection units", page 461
- removed injection units and clamping claws to be re-installed must only be mounted again at the same cylinder

2 - Screw for clamping claw

Replace after disassembly

First of all tighten the fixing screws only to MAX: 1 - 2 Nm

After installing the high pressure lines, tighten to 8 Nm + 270°

3 - High pressure connection piece at the injector

- counterhold when loosening the high pressure lines
- □ 40 Nm

4 - Retaining clip for return-flow lines

- □ Replace after disassembly
- ☐ Lightly grease the retaining clip before installing the injector

5 - Copper disc

Replace after disassembly

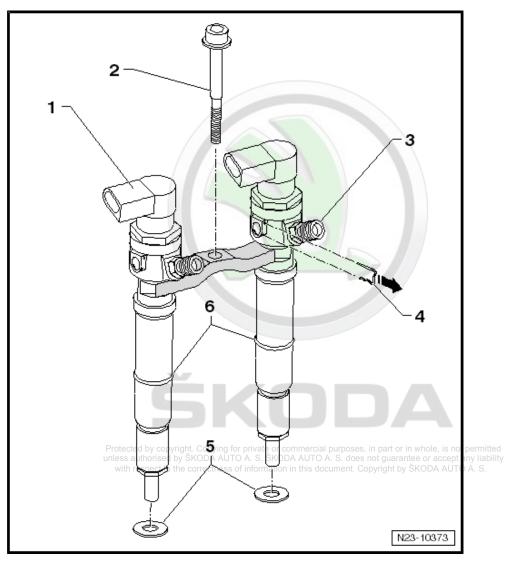
6 - O-ring

□ Replace after disassembly

2.3 Removing and installing injection unit (piezo injector)

Special tools and workshop equipment required

♦ Valve stem seal extractor - T10055-



- ◆ Assembly sleeve T10377-
- ♦ Socket T40055-
- ◆ Extractor T10402-
- ♦ Assembly sleeve T10411-

Removing



Note

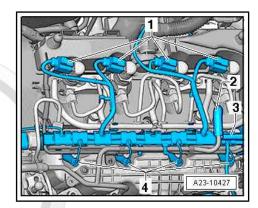
- ◆ Safety precautions when working on the fuel supply system ⇒ "2 Safety instructions", page 3.
- ♦ Observe rules for cleanliness ⇒ "3.1 Rules of cleanliness", page 7.
- Remove engine cover
 ⇒ "1.1 Removing and installing engine trim panel", page 11.
- If present, remove the noise insulation at the injection units.



Note

page 442

- ♦ Mark the assignment of the injection units to the cylinder. They must only be re-used on the same cylinder.
- Immediately close the open connections with a suitable screw cap.
- Disconnect the plug -1- at the injection units to be removed.
- Remove high pressure line between fuel distributor and injection units
 ⇒ "2.5 Removing and installing high pressure lines",



 Unlock the connections of the fuel return-flow line using a screwdriver and a set of pointed pliers.

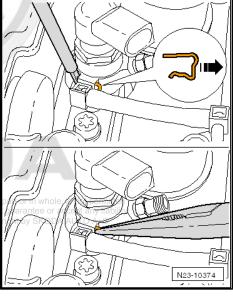


Note

Always replace clamps.



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- Disconnect the connections of the fuel return-flow line at the injectors in -direction of arrow-.
- Unscrew the fixing screw, -Pos. 21 ⇒ "2.1 Assembly overview fuel system", page 431 of the clamping claw for the injection units (piezo injectors).



Note

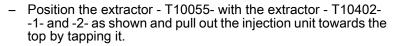
The clamping claw remains installed until the adjoining injection unit is removed.



WARNING

Risk of damage due to clamping of the tension claw on the injection unit.

Pay particular attention in order to avoid unnecessary installation work or consequential damage.



Place the removed injection units on a clean cloth.

Removing and installing injection unit for torque converter ⇒ "1.4 Replacing sealing rings for injection units", page 159.

Installing

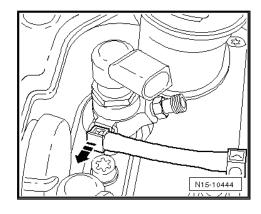
Important instructions for installing the injection units If the used injection unit is reinstalled:

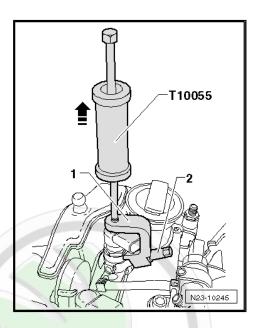
- When reinstalling, only insert injection units and injection lines for the same cylinder in the cylinder head.
- Check the injection units and the fitting positions for cleanliness before installing.
- · The injection units must not show any sign of damage.
- Spray the tip of the injection unit with a rust solvent spray. Remove soot particles or oil particles with a cloth after approx. 5 minutes.



Note

If the injection unit is heavily soiled, also clean the tip of the injection unit with a soft brass brush. Contact of the brass brush with the nozzle bores should be avoided.







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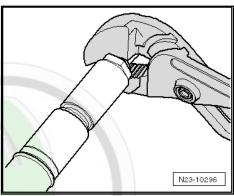
- To remove the old copper gasket from the injection unit, carefully clamp the copper sealing ring into a pair of pliers until it is just prevented from spinning. Pull the injection unit out of the copper sealing ring with slight turning and pulling movements of the hand.
- Clean the deposit below the copper gasket ring.



Caution

Risk of damage to injection unit sealing surfaces.

To remove the soot particles on the sealing surface of the injection unit, clean the injection unit shaft in the cylinder head with cleaning set - VAS 6811- or with a cloth soaked in engine oil.



When installing a used injection unit the following must be replaced:

- ♦ Copper gasket
- ◆ O-ring for the injection unit shaft
- ♦ O-ring for fuel return-flow line connection
- Retaining clip for fuel return-flow line

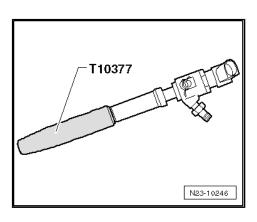
If a new injection unit is installed:

When installing a new injection unit the following must be replaced:

- ♦ Copper gasket
- ◆ O-ring for the injection unit shaft
- ♦ O-ring for fuel return-flow line connection
- ◆ Retaining clip for fuel return-flow line

Continued for all injection units

- Install the new copper gasket ring with the aid of a plastic bush.
- All the O-rings must be coated with engine oil before installing.
- Replace sealing ring for the injection unit shaft, to do this, use the mounting sleeve - T10377- .



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- Position the new clips before installing the injector. To do so, grease it lightly.
- Ensure that the injection channel is clean before the installation.
- Slide the clamping claw onto the injection units, observe the fitting position of the clamping claw
 ⇒ "2.2 Summary of components and fitting position of the clamping claw injection units (piezo injectors)", page 435
- Always insert 2 injectors with clamping claw carefully into the injection channels of the cylinder head.
- Screw in the new fixing screw of the clamping claw and only slightly tighten to a tightening torque of maximum 1 - 2 Nm.
- The injectors still have to be aligned.
- Install the high pressure line free of tension, to do so, align the position of the injection unit by turning it slightly
 ⇒ "2.5 Removing and installing high pressure lines",
 page 442
- Tighten fixing screw of the tension claw to the specified tightening torque.

Further assembly occurs in reverse order.

After replacing one or more injection units

- Adjust correction values for the new injection units through the entry in the engine control unit "Injector quantity comparison (IMA)" and "Injector voltage balance (ISA)" ⇒ Vehicle diagnostic tester.
- Reset learning value of Control valve for fuel pressure N276to default ⇒ Vehicle diagnostic tester, "Guided functions".
- Fill up the fuel system ⇒ Vehicle diagnostic tester.

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

Screw for clamping claw
 ⇒ "2.1 Assembly overview - fuel system", page 431.

2.4 Removing and installing the fuel distributor

Removing

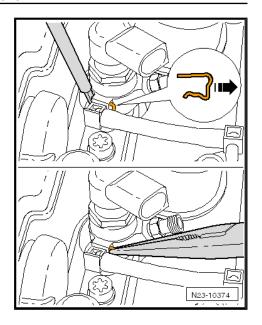


Note

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- ♦ Safety precautions when working on the fuel supply system

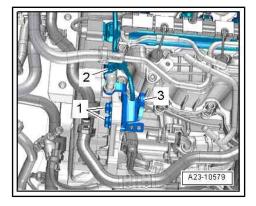
 → "2 Safety instructions", page 3.
- ♦ Observe rules for cleanliness ⇒ "3.1 Rules of cleanliness", page 7.
- Remove engine cover
 ⇒ "1.1 Removing and installing engine trim panel", page 11 .



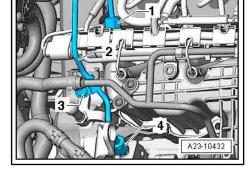


Note

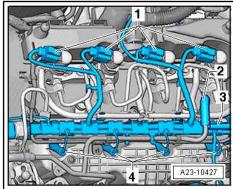
The bracket -3- for engine mounting must be movable in order to unscrew the union nut on the high pressure pump - loosen the screws -1- to ensure this is the case.



- Unscrew screw -3- and union nuts -1- and -4-.
- Collect the fuel which flows out with a cleaning cloth.
- Remove fuel high pressure pipe -2-.
- Remove the cable guide from the fuel distributor and lay it to the side.
- Disconnect the plugs at the glow plugs ⇒ "1.1 Removing and installing, testing glow plugs", page 567



- Disconnect the plugs of the injection units -1-.
- Remove the fuel return-flow hose -2- from the fuel distributor, to do so slacken the hose clamp.



- Disconnect plug connections -1-, -6- and -7-.

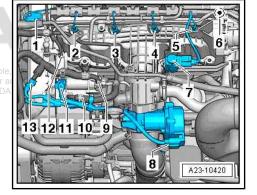


Caution |

When slackening the union nuts for the injection pipes, hold the connection fittings of the injection units with a lateral wrench. If the connection fitting loosens, this can cause leak-

Mark the assignment of the high pressure lines to the cylinders, they must only be re-used on the same cylinder.

Immediately close the open connections with a suitable screw cap.



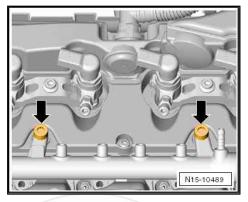
- Remove high pressure line between fuel distributor and injection units
 - ⇒ "2.5 Removing and installing high pressure lines", page 442 .

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Screw out screws -arrows- and remove fuel distributor.

Installing

Assembly is carried out in the reverse order. When installing, observe the following:

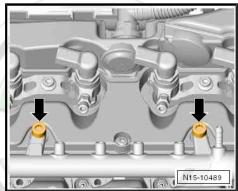


First of all tighten the fixing screws -Arrows- only to MAX: 1 - 2 Nm

- It must be ensured the displacement for stress-free installation of the lines.
- Install fuel high pressure pipes free of stress
 ⇒ "2.5.3 Installing the high pressure lines", page 444

Tightening torques - summaries of components

Summary of components
 ⇒ "2.1 Assembly overview - fuel system", page 431 .



2.5 Removing and installing high pressure lines

⇒ "2.5.1 Removing high pressure line between fuel distributor and injection units", page 442

⇒ "2.5.2 Remove high pressure line between fuel distributor and the high pressure pump", page 443

⇒ "2.5.3 Installing the high pressure lines", page 444

Special tools and workshop equipment required

- ♦ Socket T40055-
- ♦ Assembly tool T10411-
- Insertion tool SW 17
- ♦ Cleaning and degreasing agent , e.g. -D 009 401 04-
- Protective goggles and gloves

2.5.1 Removing high pressure line between fuel distributor and injection units

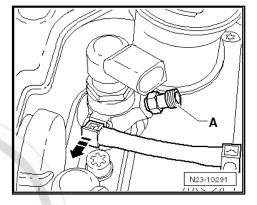


- ♦ Safety precautions when working on the fuel supply system ⇒ "2 Safety instructions", page 3.
- ♦ Observe rules for cleanliness ⇒ "3.1 Rules of cleanliness", page 7.
- Preferred loosening sequence of the high pressure lines cylinders 4-3-2-1.
- Remove engine cover
 ⇒ "1.1 Removing and installing engine trim panel", page 11.

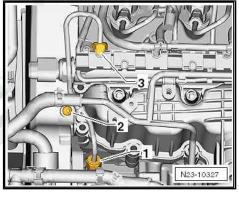




- Counterhold the high pressure connection piece -A- at the injection units, when loosening the high-pressure lines.
- Remove high pressure line between fuel distributor and injection units.



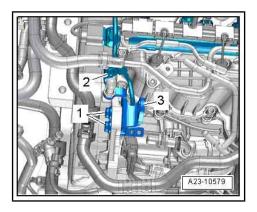
Next, only loosen the high-pressure line between high pressure reservoir and high pressure pump -3- only.



Remove high pressure line between fuel 2.5.2 distributor and the high pressure pump

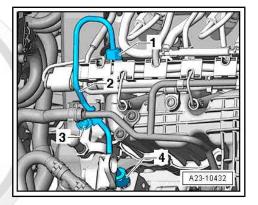


- Safety precautions when working on the fuel supply system "2 Safety instructions", page 3
- Observe rules for cleanliness ⇒ "3.1 Rules of cleanliness", page 7.
- Remove engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11.
- Unscrew screws -1- and -2- and remove engine lifting eye -3-.



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- Unscrew bolt -3-.
- Unscrew union nuts -1- And -4- and remove high pressure line -2-.



2.5.3 Installing the high pressure lines



Note

- Safety precautions when working on the fuel supply system

 ⇒ "2 Safety instructions", page 3
- ◆ Observe rules for cleanliness ⇒ "3.1 Rules of cleanliness", page 7.

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Caution

- For easier installation of the fuel high pressure pipe, release the tension of the fuel distributor. Move the fuel distributor slightly if necessary.
- For easier installation of the injection pipes, release the tension of the fuel distributor as well as the clamping claws of the injection units. If necessary, move the fuel distributor slightly and turn the corresponding injection unit slightly.
- ♦ The pipes must never be bent or installed under tension. The installation tension can lead to fracture of the fuel high pressure pipe.



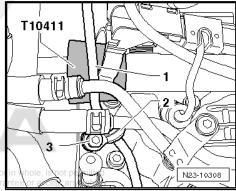
- It is not allowed to use tools for aligning the fuel distributor/the injection units.
- Pay attention to the cylinder specific marking when re-using the high pressure lines.
- ♦ The high pressure lines can be re-used if:
- The sealing cone of the relevant high pressure line is not deformed or cracked.
- The line boring is not deformed, constricted or damaged.
- Corroded lines must no longer be installed.
- Suction off dirt from the sealing cone at the fuel distributor.



WARNING

Wear protective gloves and protective goggles when working with grease remover!

- Clean fuel line and line connection and blow-dry with compressed air.
- Moisten threads of union nuts with fuel.
- First position the injection lines from the fuel distributor to the injection unit by hand, only tighten the union nuts by hand.
- Then install the high pressure line from the high pressure pump to the fuel distributor.
- For installing the high pressure line between the high pressure pump and the fuel distributor, slide the assembly sleeve -T10411- onto the fuel pressure sender - G247- .



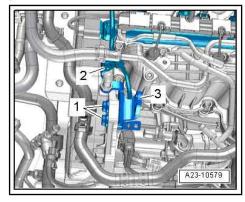


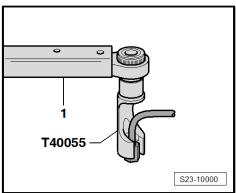
Note

- The bracket for the engine mounting must be movable in order to position the union nut on the high pressure pump - loosen the screws -1- to ensure this is the case.
- The assembly sleeve T10411- ensures the correct distance between the fuel pressure sender - G247- and the high pressure line.
- Tighten the union nuts of the high-pressure line from the highpressure pump to the fuel distributor only hand-tight.

Observe the following sequence:

Tighten high-pressure lines with Socket wrench insert SW 17 mm - T40055- on the fuel distributor and on the injection units to the prescribed tightening torque.







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- First tighten the high pressure line -2- between the high pressure pump and the fuel distributor at the high pressure pump -4- and then at the fuel distributor -1-.
- Screw on the screw -3- of the bracket for the fuel high pressure
- Screw on bracket (for engine lifting eye).
- Remove mounting sleeve T10411-.
- Tighten the fuel distributor to the specified tightening torque.
- Tighten fixing screws of tension claw to the specified tightening torque.
- Put plug on fuel pressure encoder G247- .
- Fill up the fuel system ⇒ Vehicle diagnostic tester.
- Start engine and run in idle for a few minutes and switch off.
- Check fuel system for tightness ⇒ "2.9 Check the fuel system for tightness", page 457.

Tightening torques - summaries of components

Summary of components ⇒ "2.1 Assembly overview - fuel system", page 431.

2.6 Replace fuel pressure regulating valve -N276-

The fuel pressure regulating valve - N276- is located on the fuel distributor and provides a constant pressure in the fuel distributor and in the injection lines (fuel high pressure circuit).

The regulating valve opens if there is too high a pressure in the fuel high pressure circuit so that one part of the fuel from the fuel distributor returns to the fuel tank via a return-flow line.

The pressure control valve closes if there is too low a pressure in the high-pressure fuel circuit and thus seals the high-pressure side from the low-pressure side.



Note

The fuel pressure regulating valve - N276- is not reusable.

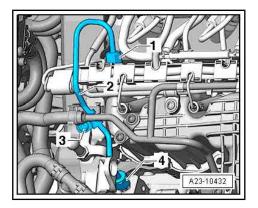
Special tools and workshop equipment required

- Cleaning and degreasing agent, e.g. -D 009 401 04-
- Protective goggles and gloves
- ♦ Open-end wrench SW 36

Removing



- Safety precautions when working on the fuel supply systemercial purposes, in part or in whole, is not permitted "2 Safety instructions" page 3 or second by SKODA AUTO A. S. SKODA AUTO A. S. does not guarantee or accept any liability *⇒ "2 Safety instructions", page* orised by ŠKODÁ AŬT
- Observe rules for cleanliness *⇒ "3.1 Rules of cleanliness", page 7* .





The fuel pressure regulating valve - N276- -6- is located on the fuel distributor.

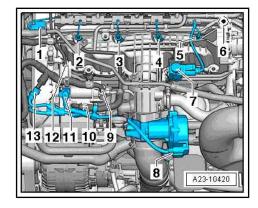
Remove fuel distributor ⇒ "2.4 Removing and installing the fuel distributor", <u>page 440</u> .



WARNING

Wear protective gloves and protective goggles when working with grease remover!

Before removing, clean the thread area around the fuel pressure regulating valve with a grease remover - no dirt must get into the hole of the fuel distributor.



Note

No grease remover must get into the plug connection, carefully clean.

- Dry fuel pressure regulating valve N276- .
- Loosen the Control valve for fuel pressure N276- and then unscrew by hand.
- Suction the dirt out of the fuel distributor hole (thread and contact surface). To do so do not use any mechanical tools.



Note

Close the fuel distributor hole immediately with a suitable screw plug in order to prevent dirt from penetrating.

Installing



- The fuel pressure regulating valve N276- does not have a gasket ring but a biting edge.
- The fuel pressure regulating valve N276- is not reusable.
- Pay attention to damage of the sealing surfaces (biting edge seal) and the thread of the new fuel pressure regulating valve - N276- .
- ♦ Also check the sealing surface in the hole of the fuel distributor.
- Grease the beginning of the thread and the biting edge of the fuel pressure regulating valve N276- with molykote grease.
- Use the open-end wrench SW 36 for tightening.
- Install fuel distributor ⇒ "2.4 Removing and installing the fuel distributor", page 440.
- Check fuel system for tightness ⇒ "2.9 Check the fuel system for tightness", page 457

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Note

If the fuel pressure regulating valve - N276- was replaced, the initialisation values of the regulating valve must be reset ⇒ Vehicle diagnostic tester, "Targeted functions", "Reset initialisation values of the engine control".

After installing the engine, let the engine run at an average speed for a few minutes and then switch it off.

- Perform test drive with at least one full load acceleration.
- Repeatedly test fuel system for tightness 2.9 Check the fuel system for tightness", page 457.
- Interrogate the fault memory of the engine control unit ⇒ Vehicle diagnostic tester.

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

Fuel pressure regulating valve - N276-"2.1 Assembly overview - fuel system", page 431.

2.7 Removing and installing fuel pressure sender - G247-

The fuel pressure sender - G247- is located in the fuel distributor, it measures the current fuel pressure in the high pressure system and delivers a voltage signal to the engine control unit - J623- .

If the sender fails, the pressure regulation is controlled by the engine control unit via a characteristic diagram; in case of emergency, the maximum engine speed is limited to 3000 rpm.

Special tools and workshop equipment required

- Cleaning and degreasing agent, e.g. -D 009 401 04-
- Protective goggles and gloves

Removing



Note

- Safety precautions when working on the fuel supply system *"2 Safety instructions", page 3* .
- Observe rules for cleanliness *⇒ "3.1 Rules of cleanliness", page 7* .
- Remove engine cover "1.1 Removing and installing engine trim panel", page 11.



WARNING

Wear protective gloves and protective goggles when working with grease remover!



Before removing, clean the thread area around the fuel pressure sender - G247- with a grease remover (no dirt must get into the hole of the fuel distributor).



Note

No grease remover must get into the plug connection, carefully clean.

- Dry the fuel pressure sender G247-.
- Disconnect electrical plug connection -2- for the fuel pressure sender - G247- .

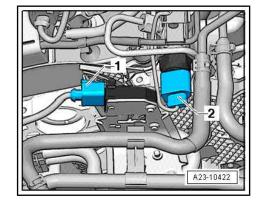


Caution

Do not slacken the fuel pressure sender using the open-end wrench or the open ring spanner - Risk of damage!

Use lengthened socket insert.

- Unscrew the fuel pressure sender G247-.
- Suction the dirt out of the fuel distributor hole (thread and contact surface). To do so do not use any mechanical tools.





Note

Close the fuel distributor hole immediately with a suitable screw plug in order to prevent dirt from penetrating.

Installing



Note

- The fuel pressure sender G247- has no gasket ring but a biting edge for sealing.
- ♦ Look out for damage to the sealing surfaces (biting edge seal) and the thread of the new fuel pressure sender - G247- . It is possible to use the fuel pressure sender - G247- again.
- Also check the sealing surface in the hole of the fuel distributor.



Caution

Do not tighten the fuel pressure sender using the open-end wrench or the open ring spanner - Risk of damage!

Use lengthened socket insert.

- Tighten the fuel pressure sender G247-by the correctness of information in this document. Copyright by SKODA AUTO A. S.
- Tighten the transmitter:
- Check fuel system for tightness ⇒ "2.9 Check the fuel system for tightness", page 457

Tightening torques - summaries of components

Fuel pressure sender - G247-⇒ "2.1 Assembly overview - fuel system", page 431.



2.8 Removing and installing the high pressure pump

⇒ "2.8.1 Removing and installing high pressure pump, Fabia II, Roomster, Rapid India, Rapid NH", page 450

⇒ "2.8.2 Removing and installing high pressure pump, Octavia II, Superb II, Yeti", page 453

2.8.1 Removing and installing high pressure pump, Fabia II, Roomster, Rapid India, Rapid NH

Special tools and workshop equipment required

- ♦ Counterholder T10051-
- ◆ Extractor T40064-
- ♦ Thrust piece T40064/1-
- ♦ Bolt T40064/2-

Removing



Note

- ◆ Safety precautions when working on the fuel supply system ⇒ "2 Safety instructions", page 3.
- ♦ Observe rules for cleanliness ⇒ "3.1 Rules of cleanliness", page 7.



Caution

Risk of malfunctions caused by soiling.

Risk of damage to the high pressure pump from running dry.

- ♦ If the high pressure pump is removed or replaced, the initial fuel filling of the high pressure pump must be carried out before the first engine start
 ⇒ "1.3 Filling/bleeding the fuel system", page 429

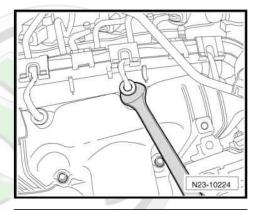


Caution

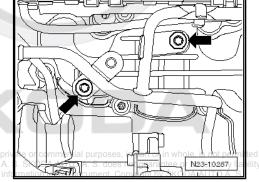
- Carefully remove the glow plug connectors from the glow plugs.
- If the plug is damaged when disconnecting it, the complete wiring loom including the plugs must be replaced (plugs cannot be replaced separately).



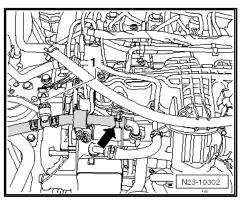
Carefully remove the glow plug connectors from the glow plugs. To do so use an open-end wrench, SW 12, for help.



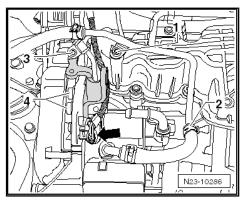
- Unscrew securing bolts -arrows-.



Disconnect the fuel feed line -arrow- on the high pressure pump and disconnect the plug -1- at the fuel temperature sender - G81- .



- Undo screws -1-, -3-, -4- and remove engine mount »grey«.
- Detach fuel return-flow line -2-.
- Remove the high pressure line between the high pressure pump and the fuel distributor.
- Remove the toothed belt gear from the high pressure pump.





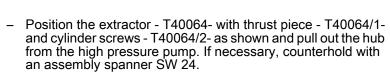
Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

Hold the hub of the high pressure pump with the counterholder - T10051- and unscrew the securing nut -1-.

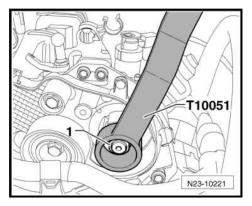


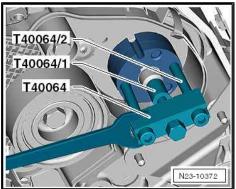
Note

Replace the basic pressure plate with the pressure plate - T40064- on the extractor - T40064/1- .













- Unscrew fixing screws -arrows- of high pressure pump.
- Remove the high pressure pump.

Installing

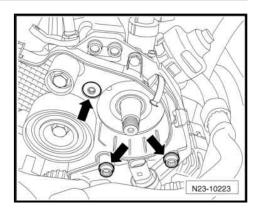


Caution

Risk of damage to the high pressure pump from running dry.

If the high pressure pump is removed or replaced, the initial fuel filling of the high pressure pump must be carried out before the first engine start

⇒ "1.3 Filling/bleeding the fuel system", page 429





Note

- When installing the high pressure pump, ensure that no dirt penetrates the fuel system.
- Only remove the screw plug immediately before installing the fuel lines.

Assembly is carried out in the reverse order. When installing, observe the following:

- The screws for the high pressure pump must be replaced.
- Filling and bleeding the fuel system Filling/bleeding the fuel system", page 429.
- In the "Targeted functions", execute the "Reset initialisation values of the engine control" function ⇒ Vehicle diagnostic tester.
- Check fuel system for tightness ⇒ "2.9 Check the fuel system for tightness", page 457

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- Summary of components ⇒ "2.1 Assembly overview - fuel system", page 431.
- Summary of components ⇒ "1.2.1 Summary of components⊫ Toothed belt drive Fabian in this document. Copyright by ŠKODA AUTO Á. S II, Roomster, Rapid India, Rapid NH", page 66

2.8.2 Removing and installing high pressure pump, Octavia II, Superb II, Yeti

Special tools and workshop equipment required

- Counterholder T10051-
- Valve stem seal extractor T40064-
- Thrust piece T40064/1-
- Fillister head screws T40064/2-



Removing



Note

- ◆ Safety precautions when working on the fuel supply system ⇒ "2 Safety instructions", page 3.
- ♦ Observe rules for cleanliness ⇒ "3.1 Rules of cleanliness", page 7.



Caution

Risk of malfunctions caused by soiling.

Risk of damage to the high pressure pump from running dry.

♦ If the high pressure pump is removed or replaced, the initial fuel filling of the high pressure pump must be carried out before the first engine start
⇒ "1.3 Filling/bleeding the fuel system", page 429

Remove the timing belt from the camshaft and the high pressure pump
 "4.7 Personing and installing toothed balt", page 06

⇒ "1.7 Removing and installing toothed belt", page 96.

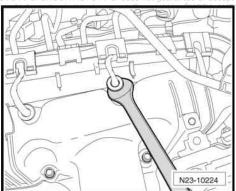


Caution

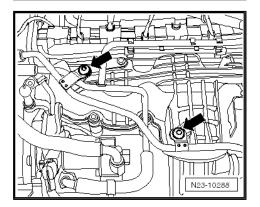
- Carefully remove the glow plug connectors from the glow plugs.
- If the plug is damaged when disconnecting it, the complete wiring loom including the plugs must be replaced (plugs cannot be replaced separately).

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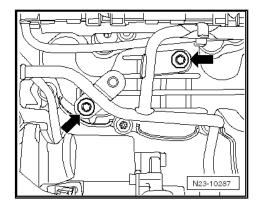
 Carefully disconnect the plug from the glow plugs. Use the assembly spanner SW 12 for help.



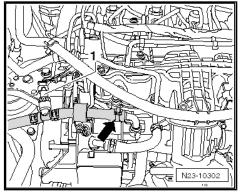
 Unscrew the fixing screws -arrows- and lay the coolant returnflow line to the side.



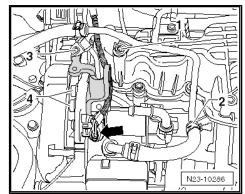
- Unscrew securing bolts -arrows-.



- Disconnect the fuel feed line -arrow- on the high pressure pump and disconnect the plug -1- at the fuel temperature sender - G81- .



- Undo screws -1-, -3-, -4- and remove engine mount »grey«.
- Detach fuel return-flow line -2-.
- Remove the fuel high pressure line between the high pressure pump and the fuel distributor.
- Remove the toothed belt gear from the high pressure pump.

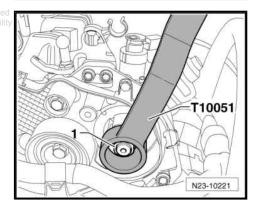


Hold the hub of the high pressure pump with the counterholder #/T10051- and unscrew the securing nut -1- yright by SKODA AUTO A. S



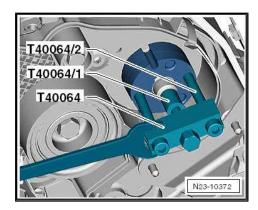
Note

Replace the basic pressure plate with the pressure plate - T40064- on the extractor - T40064/1- .



Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

 Position the extractor - T40064- with thrust piece - T40064/1and cylinder screws - T40064/2- as shown and pull out the hub from the high pressure pump. If necessary, counterhold with an assembly spanner SW 24.



- Unscrew fixing screws -arrows- of high pressure pump.
- Remove the high pressure pump.

Installing

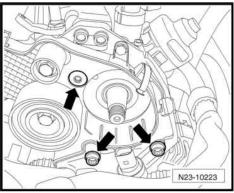


Caution

Risk of damage to the high pressure pump from running dry.

 If the high pressure pump is removed or replaced, the initial fuel filling of the high pressure pump must be carried out before the first engine start

> "1.3 Filling/bleeding the fuel system", page 429





Note

- When installing the high pressure pump, ensure that no dirt penetrates the fuel system.
- Only remove the screw plug immediately before installing the fuel lines.

Assembly is carried out in the reverse order. When installing, observe the following:

- ♦ The screws for the high pressure pump must be replaced.
- Filling and bleeding the fuel system
 ⇒ "1.3 Filling/bleeding the fuel system", page 429
- In the "Targeted functions", execute the "Reset initialisation values of the engine control" function ⇒ Vehicle diagnostic tester.
- Check fuel system for tightness
 ⇒ "2.9 Check the fuel system for tightness", page 457

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- Summary of components
 ⇒ "2.1 Assembly overview fuel system", page 431 .
- Summary of components
 ⇒ "1.2.2 Summary of components Toothed belt drive, Octavia
 II, Superb II, Yeti", page 70

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2.9 Check the fuel system for tightness

Special tools and workshop equipment required

- ◆ Cleaning and degreasing agent , e.g. -D 009 401 04-
- Protective goggles and gloves



WARNING

Wear protective gloves and protective goggles when working with grease remover!

- Degrease all fuel connections.
- Let the engine run at idling speed for a few minutes.
- Carry out a visual inspection of the complete fuel system for leaks after switching off the engine.

If there is leakage despite the correct tightening torque:

Replace the affected component part and repeat the test sequence.

If no leaks are found:

- Carry out a test drive with minimum one full load acceleration up to max. speed.
- Then once again carry out a visual inspection of the complete fuel system for leaks.

If there is leakage despite the correct tightening torque:

Replace the affected component part and repeat the test sequence.

If no leaks are found:

Query and if necessary erase event memory of engine control KODA AUTO A. S. does not guarantee or accept any liability unit ⇒ Vehicle diagnostic tester.

2.10 Check fuel pressure regulating valve -N276-

Special tools and workshop equipment required

- Suitable auxiliary hose for connection to the fuel return-flow line
- Fuel tank, approx. 200 ml

Test condition

- Engine must be warm.
- Air conditioning switched off.



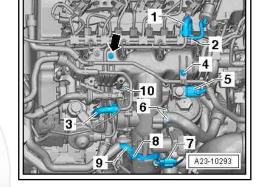
- A leaking fuel pressure regulating valve N276- leads to an increased return flow quantity when starting.
- A high fuel pressure required for starting is not reached.

Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

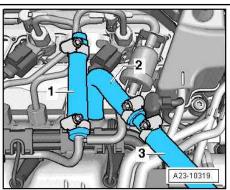
Work procedure



- Safety precautions when working on the fuel supply system <u>"2 Safety instructions", page 3</u>
- Observe rules for cleanliness *⇒ "3.1 Rules of cleanliness", page 7* .
- Remove engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11.
- Collect the fuel which flows out with a cleaning cloth.
- Detach the hose -1- from the fuel return-flow line.



- Close the open connection at the pipe for the fuel return-flow line with a plug -1-.
- Connect return-flow line -2- with hose -3-.







Hold this hose line -3- in a suitable vessel in order to measure the return flow quantity.

1) Test with engine running

- Start engine and run in idle.
- Set value: in 30 seconds ≥ 75 ml

If the specified value is not reached, the fuel pressure regulating valve - N276- is defective.

2) Test with engine running

If the condition under point 1) is fulfilled, increase the engine speed to \geq 2000 rpm.

- Set value of the return flow quantity: 0 ml
- A drop-leakage is permissible

If the specified value is not reached, the fuel pressure regulating valve - N276- is defective.

3) The engine will no longer start

Perform a test as start speed.

- Set value of the return flow quantity: 0 ml
- A drop-leakage is permissible

If the specified value is not reached, the fuel pressure regulating valve - N276- is defective.

Replace fuel pressure regulating valve - N276-"2.6 Replace fuel pressure regulating valve N276"

2.11 Checking return flow quantity of injec-

Test condition

Engine does not start



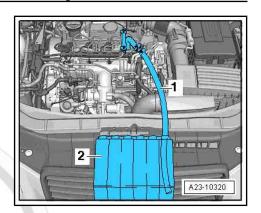
Note

- Leaking switch valves in the injection units can cause irregular engine running or prevent the engine from starting.
- In order to check the switch valves for contamination and thus also for increased leakage, a vacuum test can be carried out besides the "classic" measurement of the return flow quantity <u>"2.12 Carry out the vacuum test of the injection units", page</u> 461.

Test sequence



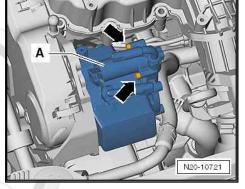
- Safety precautions when working on the fuel supply system *⇒ "2 Safety instructions", page 3*ั.
- Observe rules for cleanliness ⇒ "3.1 Rules of cleanliness", page 7.





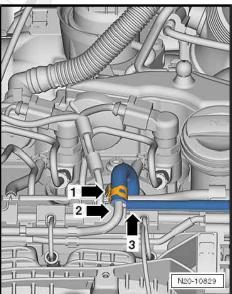
Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- Disconnect plug at fuel dosage valve N290- -A-.
- Collect the fuel which flows out with a cleaning cloth.



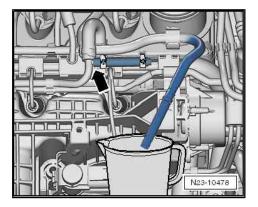
Remove the return-flow connection -3- of the injection units at the fuel drain pipe.





For vehicles Fabia II, Roomster, Rapid NH, Octavia II, Superb II, Yeti

Close the open connection at the pipe for the fuel return-flow line with a plug -arrow-.





For Rapid India vehicles

Close the open connection at the pipe for the fuel return-flow line with a plug -arrow-.

Continued for all vehicles

- When starting the engine, measure at a starter speed of ≥ 230
- Set value of the return flow quantity: 0 ml
- A drop-leakage is permissible
- If a volume flow can be measured, at least one injector is defective
- Carry out the vacuum test of the injection units .12 Carry out the vacuum test of the injection units", page



2.12 Carry out the vacuum test of the injection units

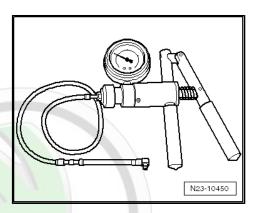


Note

- Leaking switch valves in the injectors can cause irregular engine running or prevent the engine from starting.
- In order to check the switch valves for contamination and thus also for increased leakage, a vacuum test can be carried out besides the "classic" measurement of the return flow quantity.

Special tools and workshop equipment required

- ♦ Hand vacuum pump , e.g. -VAS 6213-
- Make an -adapter- out of the return-flow line



Work procedure



Note

- Safety precautions when working on the fuel supply system <u>"2 Safety instructions", page 3</u>
- Observe rules for cleanliness *⇒ "3.1 Rules of cleanliness", page 7* .
- Collect the fuel which flows out with a cleaning cloth.





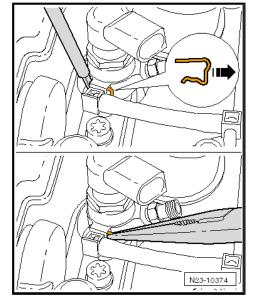
Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

Unlock the cleaned connection of the fuel return-flow line using a screwdriver and a set of pointed pliers.

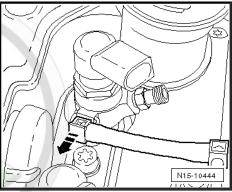


Note

Always replace clamps.

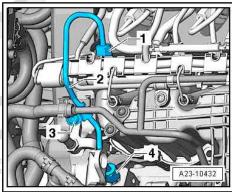


Disconnect the connection of the fuel return-flow line at the injection unit in -direction of arrow-.



Slacken the fuel high pressure line -2-, to do so only slacken the union nut at the fuel distributor -1-.







- Connect the clean, blown through adapter on the injection unit to be tested -arrow-.
- Use the hand vacuum pump VAS 6213- to build up a vacuum of -500 mbar.

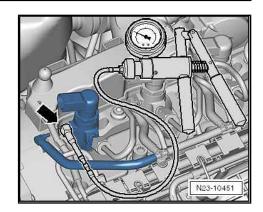
If the injection units are O.K, the vacuum remains constant for more than 30 s.

If the injection units are defective, the pressure drops again to 0 bar within 2-3 seconds.

If necessary repeat the test, pay attention to the vacuum loss on the hand vacuum pump - VAS 6213- .

Replace injection units

⇒ "2.3 Removing and installing injection unit (piezo injector)", page 436.



2.13 Check the pressure holding valve in the fuel return-flow line

The pressure holding valve has the function to always hold a remaining pressure (control quantity) of approx. 0.1 MPa (1 bar) in the fuel return-flow line.

The injection units (piezo injectors) require this control quantity for their function.

Special tools and workshop equipment required

- Pressure gauge , e.g. -VAS 6330-
- ♦ Adapter , e.g. -VAS 6330/3-1-
- ♦ Adapter , e.g. -VAS 6330/3-2-
- ◆ Cleaning and degreasing agent, e.g. -D 009 401 04-
- Protective goggles and gloves

Test sequence



Note

- Safety precautions when working on the fuel supply system <u>"2 Safety instructions", page 3</u>
- Observe rules for cleanliness ⇒ "3.1 Rules of cleanliness", page 7 information in this document. Copyright by ŠKODA AUTO A. S.
- Remove engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11



WARNING

Wear protective gloves and protective goggles when working with grease remover!

- Before removing, clean the return line connection at the injection unit of cylinder 1 with a grease remover.
- Dry the return line connection of cylinder 1.
- Cover the return line connection of cylinder 1 with a cloth.

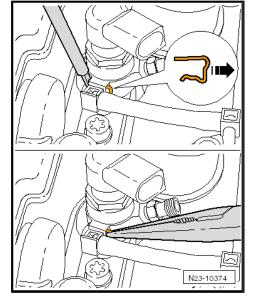
Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

Unlock the return line connection of cylinder 1 using a screwdriver and a set of pointed pliers.

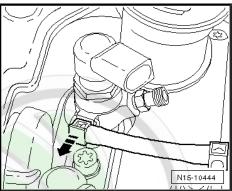


Note

Always replace clamps.

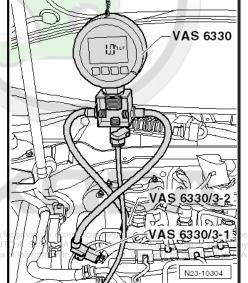


Disconnect the connections of the fuel return-flow line at the injectors in -direction of arrow-.



- Connect the pressure gauge 6330- with the adapters VAS 6330/3-1- and -VAS 6330/3-2- between the return line connection at the injection unit and the return-flow line.
- Open shut-off cock of the pressure gauge.
- Start engine and run in idle.
- Read the pressure on the pressure gauge VAS 6330-.
- Set value: approx. 0.1 MPa (1 bar)

If the specified value is not reached, replace the pressure holding valve.





3 Intake manifold, air filter

- ⇒ "3.1 Summary of components intake manifold", page 465
- ⇒ "3.2 Summary of components air filter", page 469
- ⇒ "3.3 Removing and installing intake manifold", page 471
- ⇒ "3.4 Removing and installing the throttle valve control unit J338 <u>", page 477</u>
- ⇒ "3.5 Removing and installing air filter", page 479
- 3.1 Summary of components - intake mani-
- ⇒ "3.1.1 Summary of components intake manifold with component parts, vehicles with intake manifold flap V157", page 465
- ⇒ "3.1.2 Summary of components intake manifold with component parts, vehicles without intake manifold flap V157 ", page 467
- 3.1.1 Summary of components - intake manifold with component parts, vehicles with intake manifold flap - V157-



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.





1 - Intake manifold

- with intake manifold flap motor - V157-
- with intake air-intrinsic optimisation
- ☐ must not be disassembled
- □ Removing and installing ⇒ "3.3 Removing and installing intake manifold", page 471

2 - Screw

□ 9 Nm

3 - Seal

☐ Replace after disassembly

4 - Connecting pipe

to radiator for exhaust gas recirculation



Caution

Pay attention that the damping element of the connection pipe is not bent and therefore is not overstretched. There is a risk of crack formation.

5 - Fixing clamp

- ☐ Replace after disassembly
- □ 5 Nm

6 - Sealing ring

□ Replace after disassembly

7 - Screw

□ 9 Nm

8 - Throttle valve control unit - J338-

□ Removing and installing ⇒ "3.4 Removing and installing the throttle valve control unit J338", page 477

9 - Screw

□ 10 Nm

10 - Screw

□ 10 Nm

11 - Screw

□ 10 Nm

12 - Retaining clip

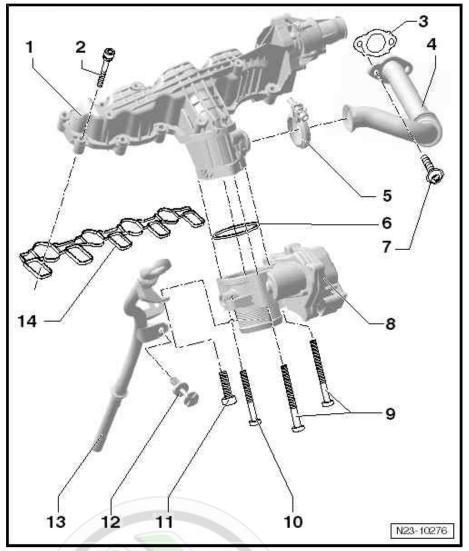
for oil dipstick guide

13 - Guide tube

☐ for the oil dipstick

14 - Seal

□ Replace after disassembly





3.1.2 Summary of components - intake manifold with component parts, vehicles without intake manifold flap - V157-



Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

1 - Guide tube

for the oil dipstick

2 - Sealing ring

☐ Replace after disassembly

3 - Seal

□ Replace after disassembly

4 - Screw

□ 8 Nm

5 - Fuel return-flow line

6 - Screw

□ 9 Nm

7 - Intake manifold

□ Removing and installing ⇒ "3.3 Removing and installing intake manifold", page 471

8 - Mounting bracket

for changeover valve for radiator of exhaust gas recirculation - N345-

9 - Screw

□ 9 Nm

10 - Changeover valve for radiator of exhaust gas recirculation - N345-

□ Check change-over ⇒ "2.3 Check changeover of radiator for exhaust gas recirculation",

page 555

11 - Seal

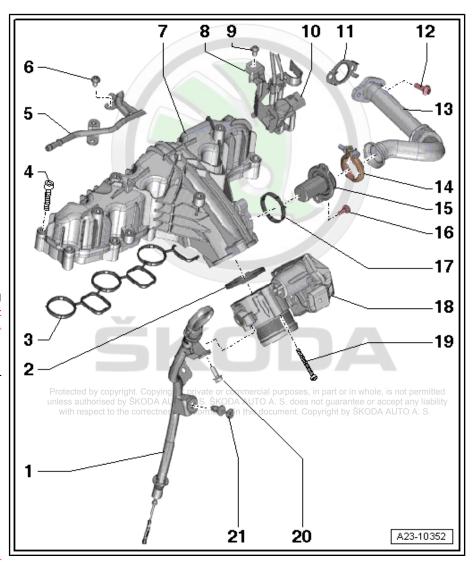
■ Replace after disassembly

12 - Screw

□ 9 Nm

13 - Connecting pipe

□ to radiator for exhaust gas recirculation







Caution

Pay attention that the damping element of the connection pipe is not bent and therefore is not overstretched. There is a risk of crack formation.

14 - Fixing clamp

- □ Replace after disassembly
- □ 5 Nm

15 - Supports

- for exhaust gas recirculation
- Component part of intake manifold

16 - Screw

- Component part of intake manifold
- □ 8 Nm

17 - Sealing ring

Component part of intake manifold

18 - Throttle valve control unit - J338-

□ Removing and installing ⇒ "3.4 Removing and installing the throttle valve control unit J338", page 477

19 - Screw

□ 8 Nm

20 - Screw

□ 9 Nm

21 - Retaining clip

☐ for oil dipstick guide







3.2 Summary of components - air filter

⇒ "3.2.1 Summary of components - Air filter, Fabia II, Roomster, Rapid India, Rapid NH", page 469

⇒ "3.2.2 Summary of components - Air filter, Octavia II, Superb II, Yeti", page 470

3.2.1 Summary of components - Air filter, Fabia II, Roomster, Rapid India, Rapid NH

Removing and installing air filter "3.5 Removing and installing air filter", page 479.

1 - Spring strap clamp

2 - Connecting pipe

- ☐ from cylinder head cov-
- for crankcase ventilation

3 - intake hose

to exhaust gas turbocharger

4 - Screw

□ 2 Nm

5 - Spring strap clamp

6 - Air mass meter - G70-

7 - O-ring

□ Replace if damaged.

8 - Screw

□ 8 Nm

9 - Air filter top part

10 - Air filter element

- To remove, turn by further 90° to the left
- Pay attention to change intervals:
- ⇒ Maintenance ; Booklet Fabia II.
- ⇒ Maintenance ; Booklet Roomster.
- ⇒ Maintenance ; Booklet Rapid Indie.
- ♦ ⇒ Maintenance; Booklet Rapid NH.

11 - Screw

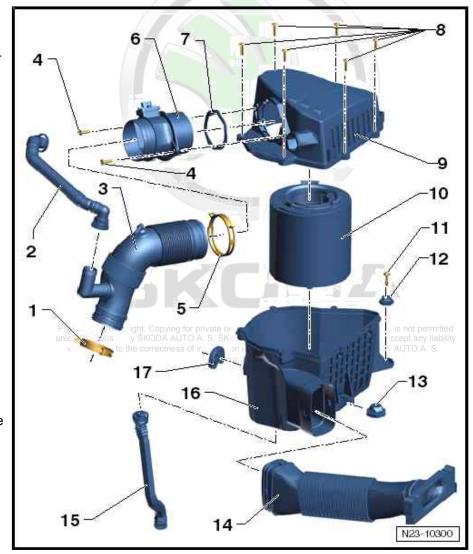
□ 10 Nm

12 - Rubber bearing

□ Replace if damaged.

13 - Rubber bearing

Replace if damaged.





14 - Suction hose with connection fitting

□ Intake hose attached to lock carrier

15 - Drain pipe

□ Check fitting position

16 - Air filter bottom part

■ with supports for drain pipe

17 - Rubber bearing

☐ Replace if damaged.

Summary of components - Air filter, Oc-3.2.2 tavia II, Superb II, Yeti



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

Removing and installing air filter

⇒ "3.5 Removing and installing air filter", page 479.

1 - intake hose

□ to exhaust gas turbocharger

2 - Vent pipe connection piece

- With heating
- Only vehicles for cold climates

3 - Connecting pipe

- for crankcase ventilation
- to remove, press release buttons

4 - Screw

□ 2 Nm

5 - Air mass meter - G70-

6 - O-ring

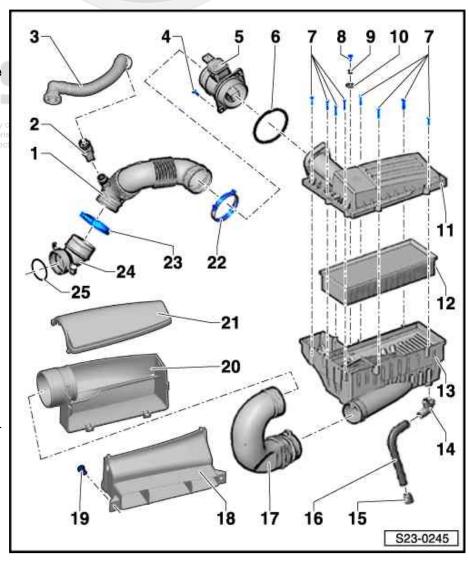
□ Replace if damaged.

7 - Screw

- ☐ Fixing screws for air filter top part
- □ 2 Nm

8 - Screw

- ☐ Fixing screw for air filter (air filter lower part)
- □ 8 Nm



- 9 Bushing
- 10 Washer
- 11 Air filter top part
- 12 Air filter element
 - □ Pay attention to change intervals:
- ♦ ⇒ Maintenance ; Booklet Octavia II .
- ♦ ⇒ Maintenance; Booklet Superb II.
- ♦ ⇒ Maintenance : Booklet Yeti .
- 13 Air filter bottom part
 - with supports for drain pipe
- 14 Connection piece
 - □ For drainage pipe
- 15 Overrun valve
- 16 Pipe section
 - For water drainage
- 17 Connecting pipe
- 18 Inlet connection
 - screwed onto lock carrier
- 19 Screw
 - □ 2 Nm
- 20 Intake air duct
- 21 Cap
 - ☐ For intake air duct
- 22 Spring strap clamp
- 23 Spring strap clamp
- 24 Inlet connection
 - with fixing screw
 - □ 9 Nm
- 25 O-ring
 - □ Replace after disassembly

3.3 Removing and installing intake manifold

⇒ "3.3.1 Removing and installing intake manifold, Fabia II, Roomster, Rapid India, Rapid NH", page 471

⇒ "3.3.2 Removing and installing intake manifold, Octavia II, Superb II, Yeti", page 474

3.3.1 Removing and installing intake manifold, Fabia II, Roomster, Rapid India, Rapid NH

Special tools and workshop equipment required

Socket insert T30 with spherical head □ T10405 ·

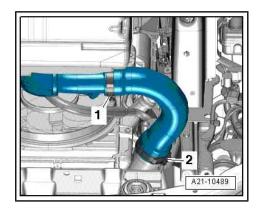


Removing

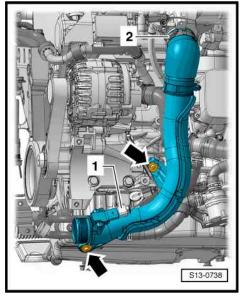


Note

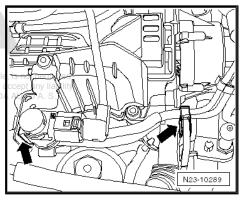
- Safety precautions when working on the fuel supply system <u>"2 Safety instructions", page 3</u> .
- Observe rules for cleanliness *⇒ "3.1 Rules of cleanliness", page 7* .
- Remove engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11.
- Remove the sound dampening system ⇒ Body Work; Rep.
- Remove the air guide hose, to do so slacken the hose clamps -1- and -2-.



- Unscrew screws -arrows-.
- Slacken the hose clamp -2- at the throttle valve control unit -J338-, detach the air guide pipe and leave it in the fitting position.
- Disconnect the plugs at the glow plugs ⇒ "1.1 Removing and installing, testing glow plugs", page 567

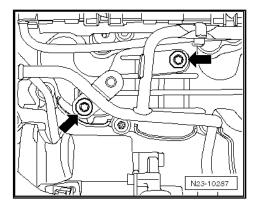


- Take the changeover valve for radiator of exhaust gas recirculation N345- left -arrow- out of the bracket and place it to the side.
- Unclip the coolant return-flow line from the intake manifold and lay to the side ted by copyright. Copying for private or commercial purposes, in part or in unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarante



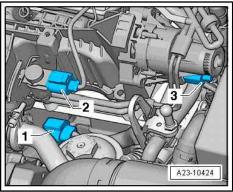


Unscrew the fixing screws -arrows-, lay the fuel return-flow line to the side.



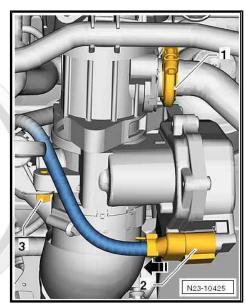
Vehicles with intake manifold flap - V157-

- Disconnect plug -3- from intake manifold flap motor - V157- .



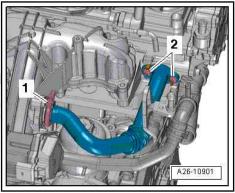
Continued for all vehicles

- Remove fuel distributor ⇒ "2.4 Removing and installing the fuel distributor", page 440.
- Disconnect the plug -2- from the throttle valve control unit -J338- .
- Release the screw -3- from the oil dipstick attachment.



Open clamp -1- and remove.







Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- Release the fixing screws -arrows- of the intake manifold crosswise from the outside to the inside. To do so, use socket insert T30 with spherical head - T10405-.
- Carefully remove intake manifold.

Installing

Assembly is carried out in the reverse order. When installing, observe the following:



Note

For vehicles with intake manifold - V157- the intake manifold can be installed as a spare part without intake manifold flap - V157-⇒ ETKA - Electronic Catalogue of Original Parts .

- Replace gasket.
- Tighten the fixing screws of the intake manifold crosswise from inside to outside.
- Install fuel distributor
 ⇒ "2.4 Removing and installing the fuel distributor",
 page 440 .

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- ♦ Summary of components ⇒ "3.1 Summary of components - intake manifold", page 465.
- ◆ Screws for charge air pipes
 ⇒ "2.1.1 Summary of components Charge air cooler, Fabia II, Roomster, Rapid India, Rapid NH", page 409
- Summary of components
 ⇒ "2.1 Assembly overview fuel system", page 431
- ♦ Summary of components ⇒ "1.1 Summary of components - removing and installing parts of the lubrication system", page 203.

3.3.2 Removing and installing intake manifold, Octavia II, Superb II, Yeti

Special tools and workshop equipment required

♦ Socket insert , e.g. -T10405-

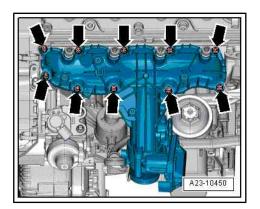
Removing



Note

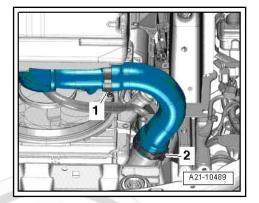
- ♦ Safety precautions when working on the fuel supply system ⇒ "2 Safety instructions", page 3.
- Observe rules for cleanliness
 ⇒ "3.1 Rules of cleanliness", page 7

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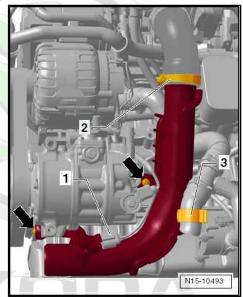




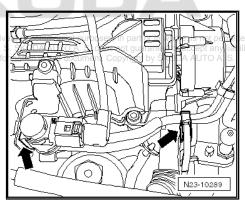
- Remove engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11.
- Remove the sound dampening system ⇒ Body Work; Rep.
- Remove the air guide hose, to do so slacken the hose clamps -1- and -2-.



- Unscrew screws -arrows-.
- Slacken the hose clamp -2- at the throttle valve control unit -J338-, detach the air guide pipe and leave it in the fitting position.
- Disconnect the plugs at the glow plugs ⇒ "1.1 Removing and installing, testing glow plugs",



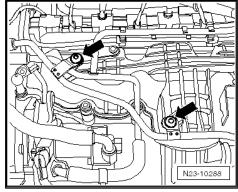
Take the changeover valve for radiator of exhaust gas recirculation - N345- -left arrow- out of the bracket and place it to the side.



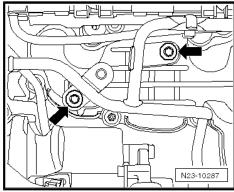


Unscrew the fixing screws -arrows- and lay the coolant returnflow line to the side.



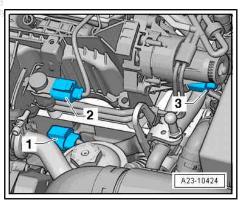






Vehicles with intake manifold flap - V157-

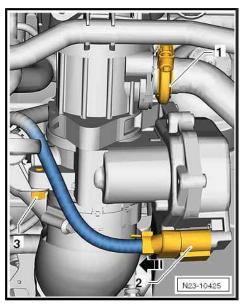
Disconnect plug -3- from intake manifold flap motor - V157- .



Continued for all vehicles

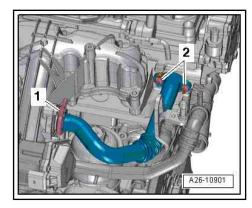
line to the side.

- Remove fuel distributor ⇒ "2.4 Removing and installing the fuel distributor", page 440.
- Disconnect the plug -2- from the throttle valve control unit -J338-.
- Release the screw -3- from the oil dipstick attachment.





Open clamp -1- and remove.



- Release the fixing screws -arrows- of the intake manifold crosswise from the outside to the inside using the socket insert - T10405- .
- Carefully remove the intake manifold.

Installing

Assembly is carried out in the reverse order. When installing, observe the following:



Note

For vehicles with intake manifold - V157- the intake manifold can be installed as a spare part without intake manifold flap - V157-⇒ ETKA - Electronic Catalogue of Original Parts .

- Replace gasket.
- Tighten the fixing screws of the intake manifold crosswise from inside to outside.

Tightening torques - summaries of components



Note

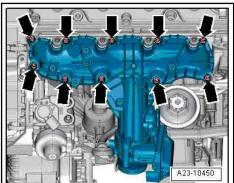
Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- Summary of components ⇒ "3.1 Summary of components - intake manifold",
- Screws for charge air pipes ⇒ "2.1.2 Summary of components - Charge air cooler, Octavia II, Superb II, Yeti", page 410
- Summary of components ⇒ "2.1 Assembly overview - fuel system", page 431
- Summary of components "1.1 Summary of components - removing and installing parts of the lubrication system", page 203

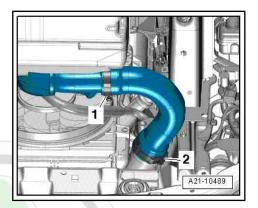
Removing and installing the throttle 3.4 valve control unit - J338-

Removing

Remove engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11.

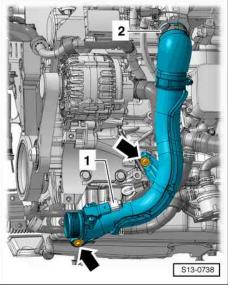


- Remove the sound dampening system -1- ⇒ Body Work; Rep.
- Remove the air guide hose, to do so slacken the hose clamps -1- and -2-.



For vehicles Fabia II, Roomster, Rapid India, Rapid NH

- Unscrew screws -arrows-.

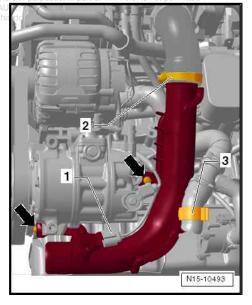


For vehicles Octavia II, Superb II, Yetis authorised by SKODA AUTO A. S. SKODA A

- Unscrew screws -arrows-.
- Detach coolant hose -3-.

Continued for all vehicles

- Loosen hose clamp -2-.
- Disconnect the plug connection -1- at the charge pressure sender - G31- with intake air temperature sender - G42- and remove the air guide pipe.





- Disconnect electrical plug connection -2-.
- Release screw -1- of guide pipe for oil dipstick.
- Release screws -arrows-, remove throttle valve control unit -J338- .

Installing

Installation is carried out in the reverse order. When installing, observe the following:

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- ◆ Throttle valve control unit J338-⇒ "3.1 Summary of components - intake manifold", page 465.
- ♦ Screws for charge air pipes ⇒ "2.1 Summary of components - charge air cooler", page 409.

3.5 Removing and installing air filter

⇒ "3.5.1 Removing and installing air filter, Fabia II, Roomster, Rapid India, Rapid NH", page 479

⇒ "3.5.2 Removing and installing air filter, Octavia II, Superb II, Yeti", page 480

3.5.1 Removing and installing air filter, Fabia II, Roomster, Rapid India, Rapid NH

Removing

- Unplug connector -2- from air mass meter G70- .
- Loosen the spring strap clip -1- and remove the hose from the air filter.
- Open the retaining clamps -3-, remove the vacuum lines laterally.

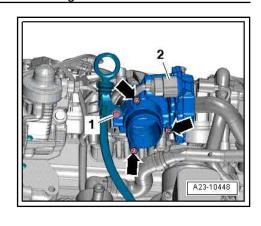


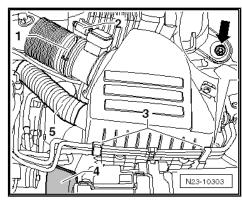
- Remove suction hose -4-.
- Carefully remove air filter from the top.

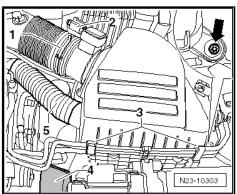
Installing

Assembly is carried out in the reverse order. When installing, observe the following:



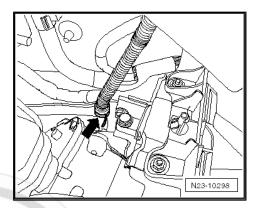






Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

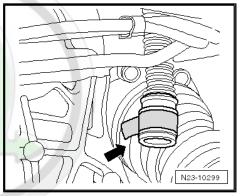
Pull through the drain pipe -arrow- between the gearbox and the body.



Check if the drain pipe is correctly installed by looking under the wing.

Tightening torques - summaries of components

♦ Summary of components ⇒ "3.2.1 Summary of components - Air filter, Fabia II, Roomster, Rapid India, Rapid NH", page 469



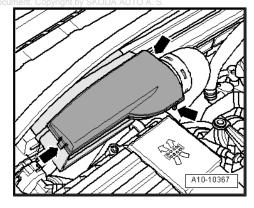
Removing and installing air filter, Octa-3.5.2 via II, Superb II, Yeti

Special tools and workshop equipment required

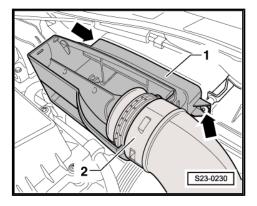
♦ Pliers for spring-type clips

Removing

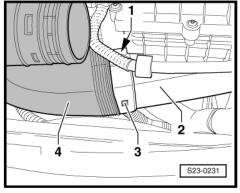
- Remove engine cover ⇒ "1.1 Removing and installing engine trim panel" page 11 AUTO A
- Remove cover for connection fitting, to do so release lateral retaining clasps -arrows-.



Release screws -arrows- for connection fitting -1- and take connecting hose -2- out of the guide.



Press in catches -1- and -3- and pull off connecting hose -4from air filter -2-.



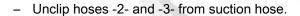
- Unplug connector -1- from air mass meter G70- .
- Detach vacuum hose -3- and intake hose -2-.
- Release screw -4- and remove air filter.

Remove intake hose

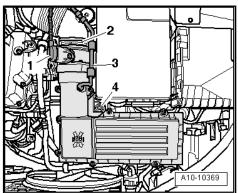


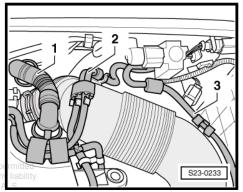
Note

Due to the poor access of the pliers for spring strap clips to the bottom suction hose it is preferable to remove the connection fitting from the exhaust turbocharger.











Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

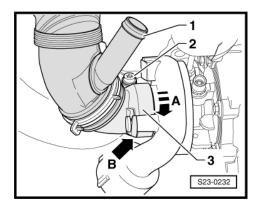
- Unscrew bolt -2-.
- Swivel connection fitting (pulsation dampener) -3- in direction of arrow -A- and remove with connection hose -1-.

Assembly is carried out in the reverse order. When installing, observe the following:

When attaching the connection fitting -3- at the exhaust gas turbocharger make sure that the connection fitting is correctly seated on the bolt of the exhaust gas turbocharger -arrow B-.

Tightening torques - summaries of components

Summary of components ⇒ "3.2.2 Summary of components - Air filter, Octavia II, Superb II, Yeti", page 470









4 Engine control unit

- ⇒ "4.1 Removing and installing engine control unit J623", page 483
- 4.1 Removing and installing engine control unit - J623-
- ⇒ "4.1.1 Removing and installing engine control unit J623, Fabia II, Roomster, Rapid India, Rapid NH", page 483
- \Rightarrow "4.1.2 Removing and installing engine control unit J623 , Octavia II", page 484
- \Rightarrow "4.1.3 Removing and installing engine control unit J623 , Superb II, Yeti", page 486
- 4.1.1 Removing and installing engine control unit - J623-, Fabia II, Roomster, Rapid India, Rapid NH



Note

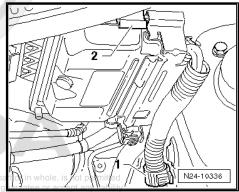
If the engine control unit must be replaced, connect ⇒ Vehicle diagnostic tester and perform the function "replace engine control"

Special tools and workshop equipment required

♦ Body saw e.g. body saw - V.A.G 1523/A-

Removing

- Switch off ignition.
- Remove air filter ⇒ "3.5 Removing and installing air filter", page 479
- Slacken the cable guide -1- and raise the locking mechanism -2-.
- Take the engine control unit out of the mount.



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For vehicles with protective housing

 Cut with body saw a slot for a cross-head screwdriver in the heads of the pull-off screws.



Note

- It must be sawed twice with the body saw, so that the slot is wide enough, in order to unscrew the screws with a suitable screwdriver.
- ♦ The pull-off screws until are inserted with locking agent.
- Screw out the screws.
- Remove protective housing of control unit.

Continued for all vehicles

 Release plug locks and unplug plug connector from engine control unit - J623- .

Installing

Installation is carried out in the reverse order.

Connect both plugs and lock.

For vehicles with protective housing

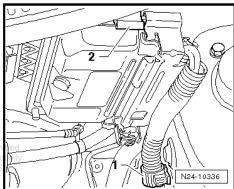
- Insert protective housing and fix with new pull-off screws to engine control unit.
- Tighten pull-off screws evenly until the screw heads are pulled off.

Continued for all vehicles

- Insert the control unit into the holder on the body until the locking mechanism -2- clicks audibly into place.
- Press the wiring loom into the cable guide -1-.
- When replacing the control unit, adapt the engine control unit
 Vehicle diagnostic tester.
- Interrogate the even memory again ⇒ Vehicle diagnostic test-

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S24-0705



4.1.2 Removing and installing engine control unit - J623- , Octavia II



Note

- ♦ In order to be able to unplug the plugs from the control unit, the control unit must always be removed.
- ◆ If the engine control unit is replaced, the ⇒ Vehicle diagnostic tester must be connected and the function "Replace engine control unit" must be carried out.

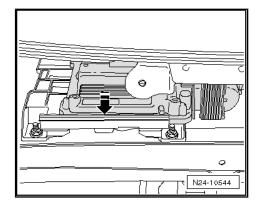
Removing

- Switch off ignition.
- Remove bulkhead plenum chamber ⇒ Body Work; Rep. gr. 66.



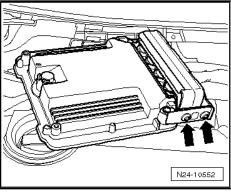


Press the retaining clip in -direction of arrow- and remove the engine control unit - J623-.

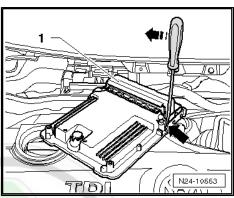


Vehicles with protective cover for plug connections

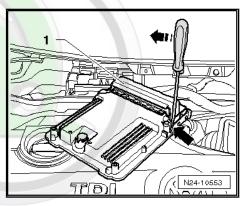
- Unscrew the pull-off screws -arrows- with pliers.



Insert the screwdriver between both protective covers -arrow-.



Carefully press the screwdriver in -direction of arrow- and at the same time bend up the protective cover -1-.





Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

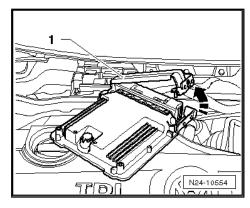
Bend the protective cover -1- in -direction of arrow- until it can be removed from the plug.

Continued for all vehicles

Unlock both plug connectors at engine control unit and remove them.

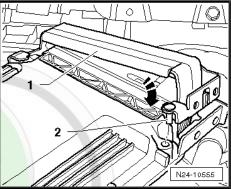
Installing

Connect both plugs and lock.



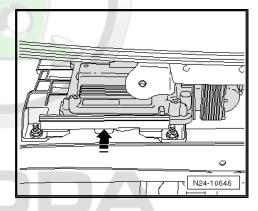
Vehicles with protective cover for plug connections

- Fit the protective cover -1- onto the plug and press in -direction of arrow-.
- Guide the pin -2- fully into the opening of the cover for the engine control unit.
- Fasten protective covers with new pull-off screws.
- Tighten pull-off screws evenly until the screw heads are pulled off.



Continued for all vehicles

- Push the engine control unit J623- into the bracket and lock with the retaining clip -arrow-.
- Install the bulkhead plenum chamber ⇒ Body Work; Rep. gr. 66 .



4.1.3 Removing and installing engine control unit - J623-, Superb II, Yeti



Note

- In order to be able to unplug the plugs from the engine control unit, the engine control unit must always be removed.
- If the engine control unit J623- is replaced, the ⇒ Vehicle diagnostic tester must be connected and the function "Replace engine control unit" must be carried out.

Removing

Switch off ignition.

Superb II vehicles

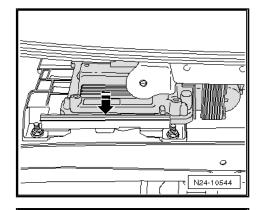
Remove the cooling water tank cover ⇒ Body Work; Rep. gr. 66.

Yeti vehicles

Remove bulkhead plenum chamber ⇒ Body Work; Rep. gr.

Continued for all vehicles

Press the retaining clip in -direction of arrow- and remove the engine control unit - J623- .



Vehicles with protective cover for plug connections

Unscrew the pull-off screws -arrows- with pliers and remove the protective covers.

Continued for all vehicles

Unlock and disconnect both plugs at the engine control unit -J623- .

Installing

Connect both plugs and lock.

Vehicles with protective cover for plug connections

- Fasten protective covers with new pull-off screws.
- Tighten pull-off screws evenly until the screw heads are pulled

Continued for all vehicles

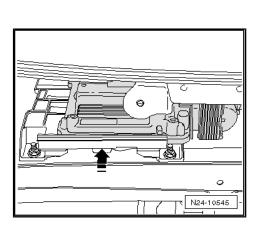
Push the engine control unit - J623- into the bracket and lock with the retaining clip -arrow-.

Superb II vehicles

Install the plenum chamber cover ⇒ Body Work; Rep. gr. 66.

Yeti vehicles

Install the bulkhead plenum chamber ⇒ Body Work; Rep. gr. 66.







5 Lambda probe

- ⇒ "5.1 Summary of components lambda probe and exhaust gas temperature senders, Octavia II up to 09.2010", page 488
- ⇒ "5.2 Summary of components lambda probe and exhaust gas temperature senders, Octavia II from 10.2010, Superb II, Yeti", page 490
- ⇒ "5.3 Summary of components lambda probe and exhaust gas temperature senders, Fabia II, Roomster, Rapid NH with engine identification characters CAYB, CAYC", page 491
- ⇒ "5.4 Removing and installing lambda probe G39 with heating for lambda probe Z19 , Octavia II, Superb II, Yeti", page 492
- ⇒ "5.5 Removing and installing Lambda probe G39 with heating for lambda probe Z19, Fabia II, Roomster, Rapid NH with engine identification characters CAYB, CAYC", page 493
- 5.1 Summary of components lambda probe and exhaust gas temperature senders, Octavia II up to 09.2010

1 - Screw

□ 8 Nm

2 - Control line

□ 45 Nm

3 - Diesel particle filter

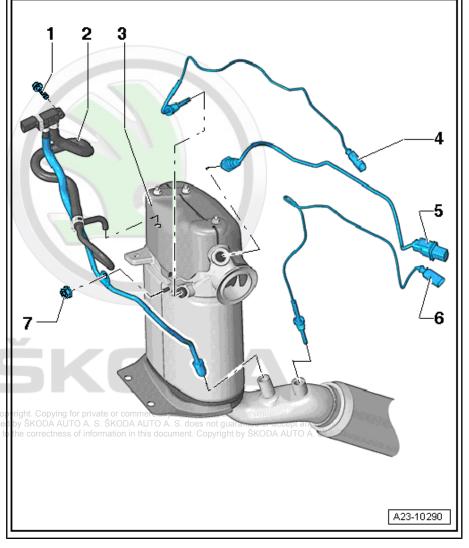
- with oxidation catalytic converter and pre-exhaust pipe
- after replacing, the adaptation of the ash mass balance must be set to "0" ⇒ Vehicle diagnostic tester
- Removing and installing
 ⇒ "1.6 Removing and installing pre-exhaust
 pipe", page 525

4 - Exhaust gas temperature transmitter 3 - G495-

- the thread of new temperature transmitters must be coated with assembly paste
- coat only the thread with hot bolt paste - G 052 112 A3- for re-used temperature sender of ected by or
- for removing and installing, use wrench T10395/6
- □ installing
 ⇒ "1.3 Removing and installing the exhaust gas temperature transmitter
 3 G495 ", page 514
- □ 45 Nm

5 - Lambda probe - G39-

☐ the thread of new lambda probes must be coated with assembly paste





if a re-used lambda probe is installed, only coat the thread with hot bolt paste -	- G 052 112 A3-	; the hot
bolt paste - G 052 112 A3- must not get into the slots of the probe body		

□ Removing and installing "5.4 Removing and installing lambda probe G39 with heating for lambda probe Z19, Octavia II, Superb II, Yeti", page 492

□ 50 Nm

6 - Exhaust gas temperature transmitter 4 - G648-

only for vehicles with diesel particle filter

□ installing ⇒ "1.5 Removing and installing the exhaust gas temperature transmitter 4 G648", page 522

□ 45 Nm

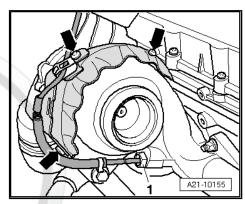
7 - Nut

□ 10 Nm

Exhaust gas temperature sender 1 - G235-

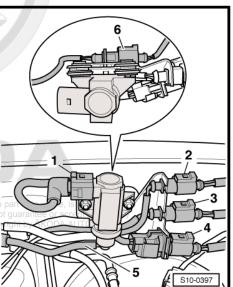
Removing and installing

⇒ "1.4 Removing and installing the exhaust gas temperature transmitter 1 G235 ", page 406 .



Contact assignment at bulkhead plenum chamber

- 1 Connector for solenoid valve for charge pressure control N75-
- 2 Connector for exhaust gas temperature sender 4 G648-
- 3 Connector for exhaust gas temperature sender 1 G235-
- 4 Connector for lambda probe G39-
- 6 Connector for exhaust gas temperature sender 3 G495-





5.2 Summary of components - lambda probe and exhaust gas temperature senders, Octavia II from 10.2010, Superb II, Yeti

1 - Screw

□ 8 Nm

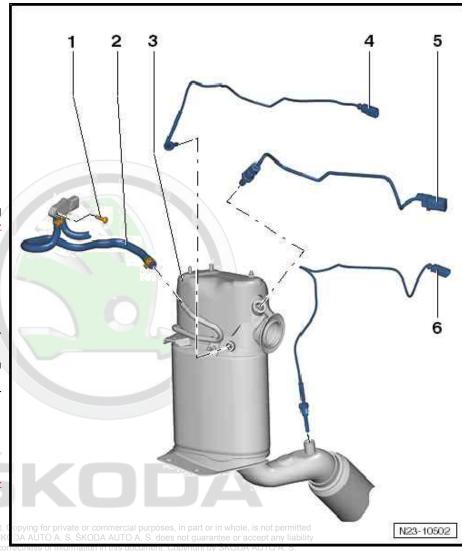
2 - Control line

3 - Diesel particle filter

- with oxidation catalytic converter and pre-exhaust pipe
- □ after replacing, the adaptation of the ash mass balance must be set to "0" ⇒ Vehicle diagnostic tester
- □ Removing and installing ⇒ "1.6 Removing and installing pre-exhaust pipe", page 525

4 - Exhaust gas temperature transmitter 3 - G495-

- the thread of new temperature transmitters must be coated with assembly paste
- coat only the thread with hot bolt paste - G 052 112 A3- for re-used temperature sender
- for removing and installing, use wrench T10395/6
- □ installing
 ⇒ "1.3 Removing and installing the exhaust gas temperature transmitter
 3 G495", page 514
- 45 Nm unless author with respect



5 - Lambda probe - G39-

- ☐ the thread of new lambda probes must be coated with assembly paste
- if a re-used lambda probe is installed, only coat the thread with hot bolt paste G 052 112 A3-; the hot bolt paste G 052 112 A3- must not get into the slots of the probe body
- Removing and installing

⇒ "5.4 Removing and installing lambda probe G39 with heating for lambda probe Z19 , Octavia II, Superb II, Yeti", page 492

□ 50 Nm

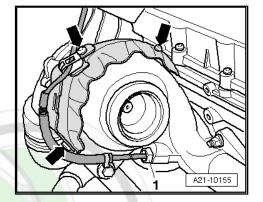
6 - Exhaust gas temperature transmitter 4 - G648-

- only for vehicles with diesel particle filter
- □ installing ⇒ "1.5 Removing and installing the exhaust gas temperature transmitter 4 G648", page 522
- □ 45 Nm

Exhaust gas temperature sender 1 - G235-

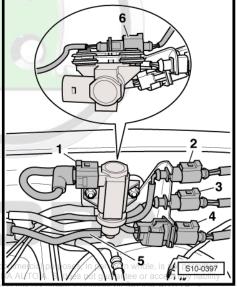
Removing and installing

⇒ "1.4 Removing and installing the exhaust gas temperature transmitter 1 G235 ", page 406 .



Contact assignment at bulkhead plenum chamber

- 1 Connector for solenoid valve for charge pressure control N75-
- 2 Connector for exhaust gas temperature sender 4 G648-
- 3 Connector for exhaust gas temperature sender 1 G235-
- 4 Connector for lambda probe G39-
- 6 Connector for exhaust gas temperature sender 3 G495-



5.3 Summary of components - lambda probe and exhaust gas temperature senders, Fabia II, Roomster, Rapid NH with engine identification characters CAYB, CAYC

1 - Exhaust gas temperature transmitter 4 - G648-

- only for vehicles with diesel particle filter
- □ installing
 ⇒ "1.5 Removing and installing the exhaust gas temperature transmitter
 4 G648 ", page 522
- □ 45 Nm

2 - Exhaust gas temperature transmitter 1 - G235-

- the thread of a new sender must be coated with assembly paste
- coat thread with hot bolt paste - G 052 112 A3before installing a used sender
- for removing and installing, use the wrench -T10395/7-
- □ installing
 ⇒ "1.4 Removing and installing the exhaust gas temperature transmitter
 1 G235 ", page 406
- □ 45 Nm

3 - Exhaust gas temperature transmitter 3 - G495-

- the thread of new temperature transmitters must be coated with assembly paste
- coat only the thread with hot bolt paste - G 052

112 A3- for re-used temperature sender

- ☐ for removing and installing, use wrench T10395/6
- □ installing ⇒ "1.3 Removing and installing the exhaust gas temperature transmitter 3 G495", page 514
- □ 45 Nm

4 - Differential pressure transmitter - G505-

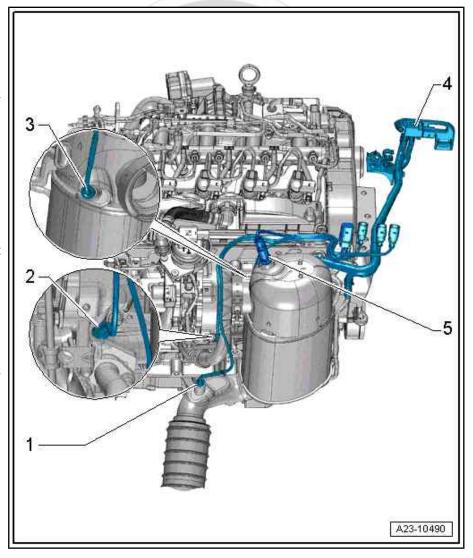
5 - lambda probe - G39- with heating for lambda probe - Z19-

- ☐ the thread of new lambda probes must be coated with assembly paste
- ☐ for a re-used lambda probe, only coat the thread with hot bolt paste G 052 112 A3-
- ☐ the hot bolt paste G 052 112 A3- must not come into contact with the slots of the probe body
- Removing and installing
 - ⇒ "5.5 Removing and installing Lambda probe G39 with heating for lambda probe Z19, Fabia II, Roomster, Rapid NH with engine identification characters CAYB, CAYC", page 493
- □ 50 Nm

5.4 Removing and installing lambda probe - G39- with heating for lambda probe - Z19-, Octavia II, Superb II, Yeti

Special tools and workshop equipment required

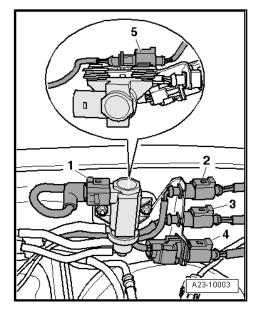
♦ Spanner set for lambda probe - 3337-





Removing

- Disconnect plug connection for lambda probe - G39- -4-.



Unscrew lambda probe - G39- -3- with a tool from the spanner set for lambda probe - 3337- .

Installing

Installation is carried out in the reverse order. When installing, observe the following:

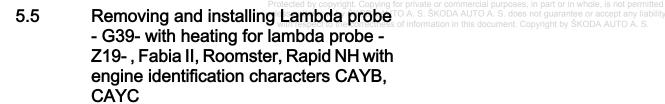


Note

- Coat a new lambda probe with assembly paste; the paste must not reach the slots on the body of the probe.
- ♦ For a re-used lambda probe, only coat the thread with hot bolt paste - G 052 112 A3- ; the paste must not get into the slots of the lambda probe.
- The wiring of the lambda probe must be attached to the same positions when installing to prevents the lambda probe cable from coming into contact with the exhaust pipe.

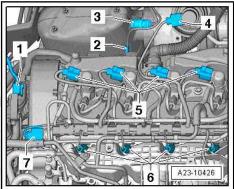
Tightening torques - summaries of components

- Lambda probe G39-⇒ "5.1 Summary of components - lambda probe and exhaust gas temperature senders, Octavia II up to 09.2010", <u>page 48</u>8 .
- Lambda probe G39-⇒ "5.2 Summary of components - lambda probe and exhaust gas temperature senders, Octavia II from 10.2010, Superb II,



Special tools and workshop equipment required

Spanner set for lambda probe - 3337-



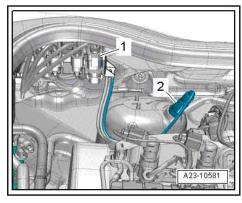


Removing

Remove engine cover
 ⇒ "1.1 Removing and installing engine trim panel", page 11.

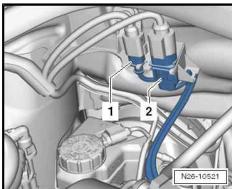
For left-hand drive

- Disconnect plug connection -1- of lambda probe G39- .
- Unscrew lambda probe G39- -2- with a spanner from the spanner set for lambda probe - 3337- .



For right-hand drive

- Disconnect plug connection -2- of lambda probe - G39- .



- Unscrew lambda probe - G39- -1- with a spanner from the spanner set for lambda probe - 3337- .

Installing

Installation is carried out in the reverse order. When installing, observe the following:

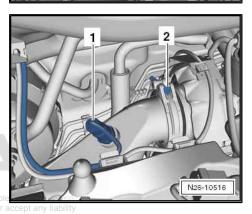


Note

- Coat a new lambda probe with assembly paste; the paste must not reach the slots on the body of the probe.
- ◆ For a re-used lambda probe, only coat the thread with hot bolth whole paste G 052 112 A3-; the paste must not get into the slots SKODA AUTO A S of the lambda probe.
- The wiring of the lambda probe must be attached to the same positions when installing to prevents the lambda probe cable from coming into contact with the exhaust pipe.

Tightening torques - summaries of components

- ◆ Lambda probe G39- LHD ⇒ "5.3 Summary of components - lambda probe and exhaust gas temperature senders, Fabia II, Roomster, Rapid NH with engine identification characters CAYB, CAYC", page 491.
- Lambda probe G39- RHD ⇒ "1.1.2 Summary of components - Pre-exhaust pipe with diesel particle filter, right-hand drive, Fabia II, Roomster, Rapid NH", page 498.





Exhaust system







1 Removing and installing parts of the exhaust system

- ⇒ "1.1 Summary of components pre-exhaust pipe", page 496
- ⇒ "1.2 Summary of components Middle and rear part of the exhaust system", page 506
- ⇒ "1.3 Removing and installing the exhaust gas temperature transmitter 3 G495", page 514
- ⇒ "1.4 Removing and installing differential pressure transmitter G505", page 517
- ⇒ "1.5 Removing and installing the exhaust gas temperature transmitter 4 G648 ", page 522
- ⇒ "1.6 Removing and installing pre-exhaust pipe", page 525
- ⇒ "1.7 Replacing the middle and rear part of the exhaust system", page 541
- ⇒ "1.8 Align exhaust system free of stress", page 543
- ⇒ "1.9 Inspecting the exhaust system for leaks", page 546

1.1 Summary of components - pre-exhaust pipe

- ⇒ "1.1.1 Summary of components Pre-exhaust pipe with diesel particle filter, Fabia II, Roomster, Rapid NH", page 496
- ⇒ "1.1.2 Summary of components Pre-exhaust pipe with diesel particle filter, right-hand drive, Fabia II, Roomster, Rapid NH", page 498
- ⇒ "1.1.3 Summary of components Pre-exhaust pipe with diesel particle filter up to 09.2010, Octavia II", page 500
- ⇒ "1.1.4 Summary of components Pre-exhaust pipe with diesel particle filter, Octavia II from 10.2010, Superb II, Yeti", page 502
- ⇒ "1.1.5 Summary of components Pre-exhaust pipe with cata-purposes, in part or in whole, is not permitted lytic converter, Rapid India Rapid NH" Spage 504. S. SKODA AUTO A. S. does not guarantee or accept any liability formation in this document. Convining by SKODA AUTO A. S.

1.1.1 Summary of components - Pre-exhaust pipe with diesel particle filter, Fabia II, Roomster, Rapid NH



Note

- Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.
- ♦ The decoupling element in the pre-exhaust pipe should not be bent by more than 10° risk of damage.
- ♦ Secure the decoupling element with the transport security T10403- if necessary -T10404- against overtensioning.
- ♦ Replace the gaskets and the self-locking nuts.
- When performing installation work on the exhaust system, make sure the exhaust system is not mounted under tension and has adequate clearance from the vehicle body. If necessary, slacken the clamping sleeve and align the exhaust system so as to create all round adequate clearance to the body and so that the weight is evenly distributed over the hangers.

1 - Differential pressure transmitter - G505-

- Pay attention to the part number
- □ Removing and installing ⇒ "1.4 Removing and installing differential pressure transmitter G505 page 517

2 - Screw

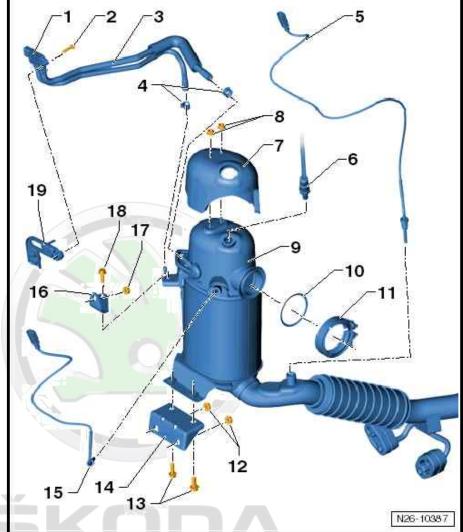
- □ 3 Nm
- 3 Control line
- 4 Clamps

5 - Exhaust gas temperature transmitter 4 - G648-

- □ the thread of the exhaust gas temperature transmitter is coated and must not be coated additionally with hot bolt paste
- □ Removing and installing ⇒ "1.5 Removing and installing the exhaust gas temperature transmitter 4 G648 ", page 522
- □ 45 Nm

6 - Lambda probe - G39-

- ☐ the thread of new lambda probes must be coated with assembly paste
- for a re-used lambda probe, only coat the thread with hot bolt paste - G 052 112 A3-



- ☐ the hot bolt paste G 052 112 A3- must not come into contact with the slots of the probe body
- □ 50 Nm

7 - Heat shield

8 - Nut

□ 9 Nm

9 - Diesel particle filter

- □ with oxidation catalytic converter and pre-exhaust pipe
- Pay attention to the part number
- ☐ after replacing, the adaptation of the ash mass balance must be set to "0" ⇒ Vehicle diagnostic tester
- □ Removing and installing ⇒ "1.6 Removing and installing pre-exhaust pipe", page 525

10 - Seal

- □ Replace after disassembly
- Check fitting position

11 - Clamping sleeve

- □ Replace after disassembly
- □ 7 Nm

12 - Nut

□ 25 Nm



Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

13 - Screw

□ 25 Nm

14 - Mounting bracket

screwed onto the cylinder block

15 - Exhaust gas temperature transmitter 3 - G495-

- □ the thread of the exhaust gas temperature transmitter is coated and must not be coated additionally with hot bolt paste
- □ tighten ⇒ "1.3 Removing and installing the exhaust gas temperature transmitter 3 G495", page 514
- □ 45 Nm

16 - Mounting bracket

17 - Nut

□ 25 Nm

18 - Screw

- for pressure line
- □ 45 Nm

19 - Mounting bracket

☐ for differential pressure indicator - G505-

1.1.2 Summary of components - Pre-exhaust pipe with diesel particle filter, right-hand drive, Fabia II, Roomster, Rapid NH



Note

- Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.
- ♦ The decoupling element in the pre-exhaust pipe should not be bent by more than 10° risk of damage.
- ♦ Secure the decoupling element with the transport security → A. S. SKODA AUTO A. S. does not guarantee or accept any liability T10403- if necessary -T10404- against overtensioning.
- ♦ Replace the gaskets and the self-locking nuts.
- When performing installation work on the exhaust system, make sure the exhaust system is not mounted under tension and has adequate clearance from the vehicle body. If necessary, slacken the clamping sleeve and align the exhaust system so as to create all round adequate clearance to the body and so that the weight is evenly distributed over the hangers.



1 - Lambda probe - G39-

- □ the thread of new lambda probes must be coated with assembly paste
- ☐ for a re-used lambda probe, only coat the thread with hot bolt paste - G 052 112 A3-
- the hot bolt paste G 052 112 A3- must not come into contact with the slots of the probe body
- □ 50 Nm

2 - Seal

- □ Replace after disassembly
- □ Check fitting position

3 - Clamping sleeve

- Replace after disassembly
- □ 7 Nm

4 - Exhaust gas temperature transmitter 4 - G648-

- the thread of the exhaust gas temperature transmitter is coated and must not be coated additionally with hot bolt paste
- □ Removing and installing ⇒ "1.5 Removing and installing the exhaust gas temperature transmitter 4 G648", page 522
- □ 45 Nm

2 3 14 13 10 6 N26-10514

5 - Exhaust gas temperature transmitter 3 - G495-

- ☐ the thread of the exhaust gas temperature transmitter is coated and must not be coated additionally with hot bolt paste
- □ tighten ⇒ "1.3 Removing and installing the exhaust gas temperature transmitter 3 G495", page 514

Protect 6 - Mounting bracket ate or commercial purposes, in part or in whole, is not permitted

unless authorised by SKUDA AUTO A. S. SKODA AUTO A. S. does not guarantee or accept any liability with respul to for differential pressure indicator. G505-SKODA AUTO A. S.

7 - Clamps

8 - Control line

9 - Differential pressure transmitter - G505-

- Pay attention to the part number
- Removing and installing
 - ⇒ "1.4 Removing and installing differential pressure transmitter G505", page 517

10 - Nut

□ 4.5 Nm

11 - Screw

□ 25 Nm



Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

1	2	_	N	ut

□ 25 Nm

13 - Mounting bracket

- screwed onto the cylinder block
- 14 Catalytic converter with diesel particle filter
 - Pay attention to the part number
 - ☐ after replacing, the adaptation of the ash mass balance must be set to "0" ⇒ Vehicle diagnostic tester
 - □ Removing and installing ⇒ "1.6 Removing and installing pre-exhaust pipe", page 525

1.1.3 Summary of components - Pre-exhaust pipe with diesel particle filter up to 09.2010, Octavia II



Note

- ♦ Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.
- ♦ The decoupling element in the pre-exhaust pipe should not be bent by more than 10° risk of damage.
- ♦ Secure the decoupling element with the transport security T10403- if necessary -T10404- against overtensioning.
- ♦ Replace the gaskets and the self-locking nuts.
- When performing installation work on the exhaust system, make sure the exhaust system is not mounted under tension and has adequate clearance from the vehicle body. If necessary, slacken the clamping sleeve and align the exhaust system so as to create all round adequate clearance to the body and so that the weight is evenly distributed over the hangers.





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1 - Differential pressure transmitter - G505-



Caution

Risk of damage! The differential pressure sender - G505- is verv sensitive and must only be removed and replaced together with bracket and hoses.

l₱must not touch somewhere when laving it down with the bracket.

- 2 Connector
- 3 Nut
 - □ 10 Nm
- 4 Screening

5 - Lambda probe - G39-

- the thread of new lambda probes must be coated with assembly paste
- ☐ if a re-used lambda probe is installed, only coat the thread with hot bolt paste - G 052 112 A3-; the hot bolt paste -G 052 112 A3- must not get into the slots of the probe body
- □ 50 Nm

6 - Exhaust gas temperature transmitter 4 - G648-

- the thread of the exhaust gas temperature transmitter is coated and must not be coated additionally with hot bolt paste
- Removing and installing ⇒ "1.5 Removing and installing the exhaust gas temperature transmitter 4 G648", page 522
- □ 45 Nm

7 - Seal

- □ Replace after disassembly
- ☐ Check fitting position

8 - Fixing clamp

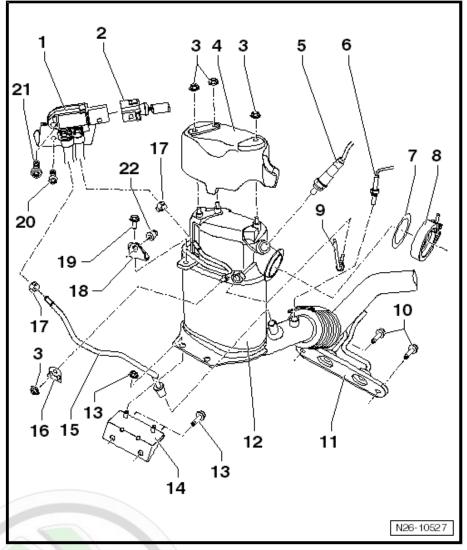
- Replace after disassembly

9 - Exhaust gas temperature transmitter 3 - G495-

- the thread of the exhaust gas temperature transmitter is coated and must not be coated additionally with hot bolt paste
- □ tighten ⇒ "1.3 Removing and installing the exhaust gas temperature transmitter 3 G495", page 514
- □ 45 Nm
- 10 Screwotected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability
 - 23 Nm respect to the correctness of information in this document. Copyright by ŠKODA AUTO Á. S.

11 - Hanger

□ Replace if damaged.





Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

12 -	Diesel	particle	filter
	with	oxidatio	n cat

catalytic converter and pre-exhaust pipe

☐ after replacing, the adaptation of the ash mass balance must be set to "0" ⇒ Vehicle diagnostic tester

□ Removing and installing ⇒ "1.6 Removing and installing pre-exhaust pipe", page 525

13 - Nuts/bolts

□ 23 Nm

14 - Mounting bracket

bolted to the cylinder block

☐ Replace bracket for diesel particle filter with riveted threaded bolts

☐ the required tightening torque can only be applied in this way

15 - Control line

□ 45 Nm

16 - Mounting bracket

bolted to the diesel particle filter

17 - Clamping sleeve

□ Replace after disassembly

18 - Mounting bracket

bolted to the cylinder head

19 - Screw

□ 23 Nm

20 - Screw

□ 3 Nm

21 - Screw

□ 8 Nm

22 - Nut

□ 23 Nm

1.1.4 Summary of components - Pre-exhaust pipe with diesel particle filter, Octavia II from 10.2010, Superb II, Yeti



Note

- Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.
- The decoupling element in the pre-exhaust pipe should not be bent by more than 10° - risk of damage.
- Secure the decoupling element with the transport security -T10403- if necessary -T10404- against overtensioning.
- Replace the gaskets and the self-locking nuts.
- make sure the exhaust system is not mounted under tension yight by SKODA AUTO A. S. and has adequate clearance from the When performing installation work on the exhaust system, and has adequate clearance from the vehicle body. If necessary, slacken the clamping sleeve and align the exhaust system so as to create all round adequate clearance to the body and so that the weight is evenly distributed over the hangers.

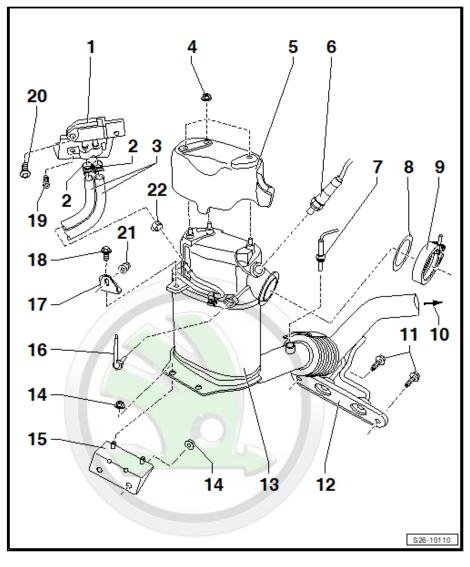
1 - Differential pressure transmitter - G505-



Caution

Risk of damage! The differential pressure sender - G505- is verv sensitive and therefore requires the utmost care. It must not touch somewhere when laying it down. Only detach the hoses from the differential pressure sender -G505- if it must be replaced.

- 2 Spring strap clamps
- 3 Hose
- 4 Nut
 - □ 10 Nm
- 5 Heat shield
- 6 Lambda probe G39
 - the thread of new lambda probes must be coated with assembly paste
 - ☐ if a re-used lambda probe is installed, only coat the thread with hot bolt paste - G 052 112 A3-; the hot bolt paste -G 052 112 A3- must not get into the slots of the probe body



7 - Exhaust gas temperature transmitter 4 - G648-

- the thread of the exhaust gas temperature transmitter is coated and must not be coated additionally with hot bolt paste
- Removing and installing ⇒ "1.5 Removing and installing the exhaust gas temperature transmitter 4 G648", page 522
- □ 45 Nm

8 - Seal

- □ Replace after disassembly
- Check fitting position

9 - Fixing clamp

- □ Replace after disassembly
- □ 7 Nm

10 - to middle part of exhaust system

- 11 Screw
 - □ 23 Nm

12 - Hanger

Replace if damaged.

13 - Diesel particle filter

☐ with oxidation catalytic converter and pre-exhaust pipe

1	6		1
1/4			1
A.	-11	Ł.	J)
. 10			o.

Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 5KODA 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

	after replacing, the adaptation of the ash mass balance must be set to "0" ⇒ Vehicle diagnostic tester Removing and installing ⇒ "1.6 Removing and installing pre-exhaust pipe", page 525
– 14 - N	
	23 Nm
	Mounting bracket
- C 	bolted to the cylinder block
	Replace bracket for diesel particle filter with riveted threaded bolts
	the required tightening torque can only be applied in this way
16 - E	Exhaust gas temperature transmitter 3 - G495-
u	the thread of the exhaust gas temperature transmitter is coated and must not be coated additionally with hot bolt paste
	tighten ⇒ "1.3 Removing and installing the exhaust gas temperature transmitter 3 G495", page 514
	45 Nm
17 - N	Mounting bracket
	bolted to the cylinder head
18 - 8	Screw
	23 Nm
19 - 9	Screw
	3 Nm
20 - 8	Screw
	8 Nm
21 - N	Nut
	23 Nm
	Replace after disassembly

1.1.5 Summary of components - Pre-exhaust pipe with catalytic converter, Rapid India, Rapid NH



Note

- Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.
- The decoupling element in the pre-exhaust pipe should not be bent by more than 10° risk of damage.
- Secure the decoupling element with the transport security T10403- if necessary -T10404- against overtensioning.
- Replace the gaskets and the self-locking nuts.
- When performing installation work on the exhaust system, S. ŠKODA AUTO A. S. does not guarantee or accept any liability mrmation in this document. Copyright by ŠKODA AUTO A. S. make sure the exhaust system is not mounted under tension and has adequate clearance from the vehicle body. If necessary, slacken the clamping sleeve and align the exhaust system so as to create all round adequate clearance to the body and so that the weight is evenly distributed over the hangers.



1 - Exhaust pipe with catalytic converter

Removing and installing ⇒ "1.6 Removing and installing pre-exhaust pipe", page 525

2 - Seal

- ☐ Replace after disassembly
- □ Check fitting position

3 - Clamping sleeve

- ☐ Replace after disassembly
- □ 7 Nm

4 - Retaining strap

☐ Replace if damaged.

5 - Nut

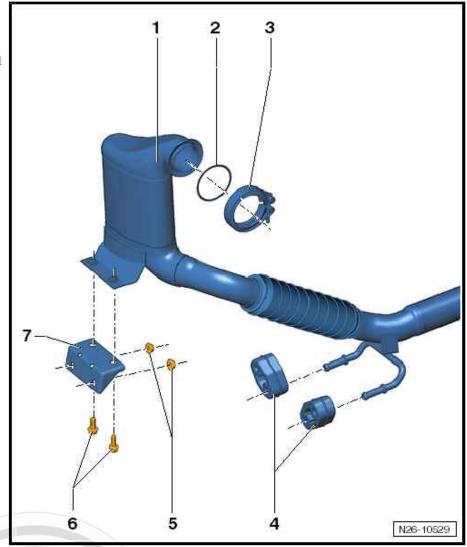
□ 25 Nm

6 - Screw

□ 25 Nm

7 - Mounting bracket

screwed onto the cylinder block









1.2 Summary of components - Middle and rear part of the exhaust system

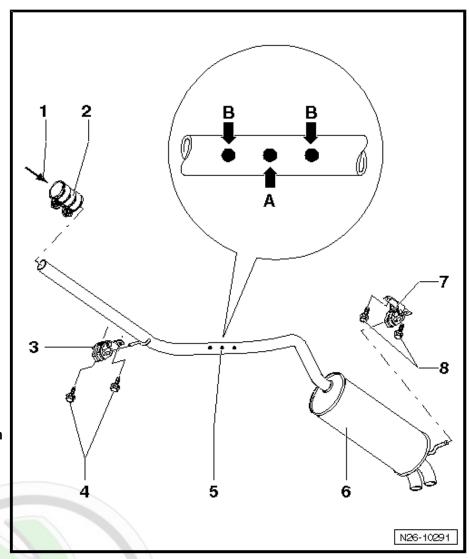
- ⇒ "1.2.1 Summary of components Middle and rear part of the exhaust system, Fabia II", page 506
- ⇒ "1.2.2 Summary of components middle and rear part of exhaust system, Roomster", page 508
- ⇒ "1.2.3 Summary of components Middle and rear part of the exhaust system, vehicles with front-wheel drive, Octavia II", page
- ⇒ "1.2.4 Summary of components Middle and rear part of the exhaust system, vehicles with four-wheel drive, Octavia II", page
- ⇒ "1.2.5 Summary of components Middle and rear part of the exhaust system, Superb II", page 511
- ⇒ "1.2.6 Summary of components Middle and rear part of the exhaust system, Yeti", page 512
- ⇒ "1.2.7 Summary of components Middle and rear part of the exhaust system, Rapid India", page 513
- ⇒ "1.2.8 Summary of components Middle and rear part of the exhaust system, Rapid NH", page 514

1.2.1 Summary of components - Middle and rear part of the exhaust system, Fa-

Middle and rear part of the exhaust system



- 1 From diesel particle filter
- 2 Clamping sleeve
 - □ 23 Nm
- 3 Retaining strap
 - ☐ Replace if damaged.
- 4 Screw
 - □ 25 Nm
- 5 Separation point
 - ☐ for first equipment rear part of exhaust system one building unit with middle part of exhaust system
 - □ Replace individually when carrying out repairs
 - position clamping sleeve on the marking -arrows B- when installing
 - ☐ Installing the exhaust system without tension ⇒ "1.8 Align exhaust system free of stress", page 543
- 6 Rear part of exhaust system
- 7 Retaining strap
 - ☐ Replace if damaged.
- 8 Screw
 - □ 25 Nm



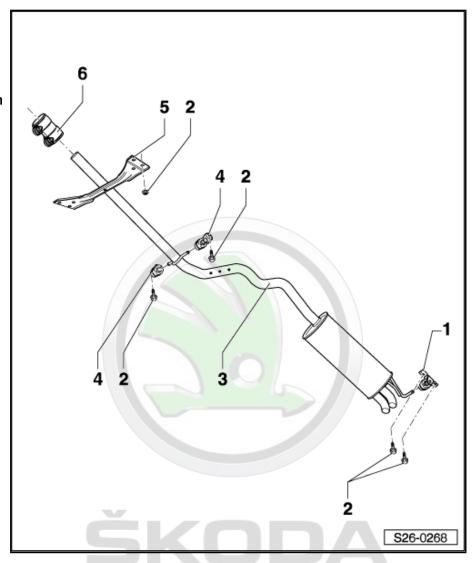




1.2.2 Summary of components - middle and rear part of exhaust system, Roomster

Rear part of exhaust system

- 1 Retaining strap
 - ☐ Replace if damaged.
- 2 Screw/nut
 - □ 20 Nm
- 3 Rear part of exhaust system
- 4 Retaining strap
 - □ Replace if damaged.
- 5 Tunnel bridge
- 6 Clamping sleeve
 - □ 23 Nm





Summary of components - Middle and rear part of the exhaust system, ve-1.2.3 hicles with front-wheel drive, Octavia II

1 - Screw

- ☐ Replace after disassembly
- □ 23 Nm

2 - Retaining strap

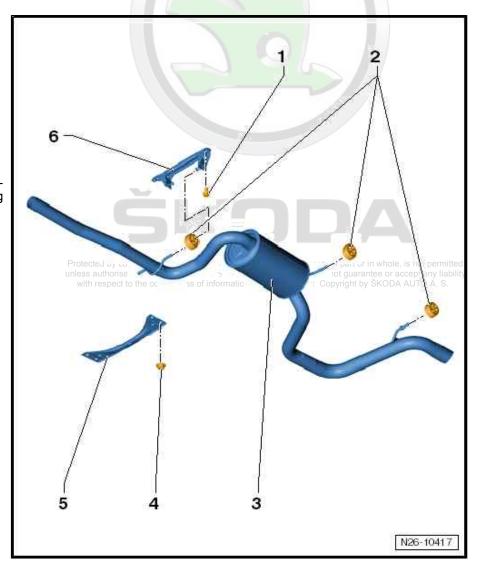
☐ Replace if damaged.

3 - Middle and rear part of the exhaust system

- for first equipment a building unit, replace individually when carrying out repairs ⇒ "1.7 Replacing the
 - middle and rear part of the exhaust system", page 541
- ☐ Installing the exhaust system without tension ⇒ "1.8 Align exhaust system free of stress", page 543

4 - Nut

- □ 20 Nm
- 5 Rear tunnel bridge
- 6 Hanger





1.2.4 Summary of components - Middle and rear part of the exhaust system, vehicles with four-wheel drive, Octavia II

1 - Middle and rear part of the exhaust system

- for first equipment a building unit, replace individually when carrying out repairs
 - ⇒ "1.7 Replacing the middle and rear part of the exhaust system", page 541
- □ Installing the exhaust system without tension ⇒ "1.8 Align exhaust system free of stress", page 543
- Separation point
 ⇒ "1.7 Replacing the
 middle and rear part of
 the exhaust system",
 page 541

2 - Retaining strap

- ☐ Replace if damaged.
- ☐ Pay attention to the part

3 - Nut

□ 23 Nm

4 - Clamping sleeve

- □ align the exhaust system free of stress before tightening
 ⇒ "1.8 Align exhaust
 - ⇒ "1.8 Align exhaust system free of stress", page 543
- ☐ Tighten bolted connections evenly

5 - Hanger

6 - Screw/nut

□ 20 Nm

7 - Tunnel bridge

☐ front

8 - Retaining strap

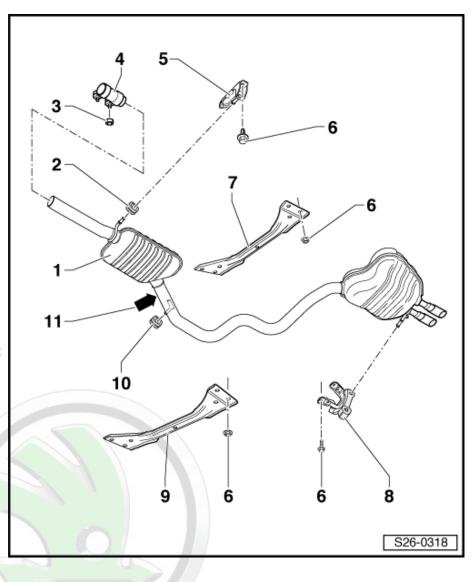
- □ Replace if damaged.
- Pay attention to the part number

9 - Tunnel bridge

- rear Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted
- 10 Retaining straps to the correctness of information in this document. Copyright by ŠKODA AUTO A. S.
 - ☐ Replace if damaged.
 - Pay attention to the part number

11 - Separation point

- for repairs
- marked with recesses around the circumference





☐ Separation point ⇒ "1.7 Replacing the middle and rear part of the exhaust system", page 541

1.2.5 Summary of components - Middle and rear part of the exhaust system, Superb II

1 - Middle and rear part of the exhaust system

- for first equipment a building unit, replace individually when carrying out repairs ⇒ "1.7 Replacing the
 - middle and rear part of the exhaust system", page 541
- ☐ Installing the exhaust system without tension ⇒ "1.8 Align exhaust system free of stress", page 543

2 - Retaining strap

Replace if damaged.

3 - Screw/nut

□ 23 Nm

4 - Clamping sleeve

- □ align exhaust system free of stress before fitting on ⇒ "1.8 Align exhaust system free of stress", page 543
- ☐ Tighten screwed connections uniformly

5 - Hanger

- 6 Nut
 - □ 20 Nm

7 - Front tunnel bridge

8 - Hanger

Replace if damaged.

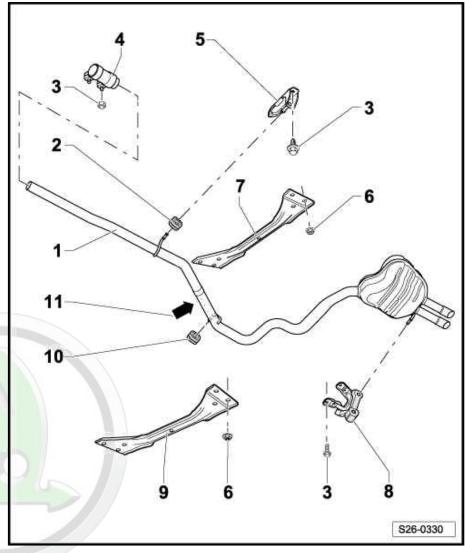
9 - Rear tunnel bridge

10 - Retaining strap

- □ Replace if damaged.
- Pay attention to the part number

11 - Separation point

- Protecte by for repairs
 - with recesses around the circumference UTO A. S.
 - Separation point ⇒ "1.7 Replacing the middle and rear part of the exhaust system", page 541





1.2.6 Summary of components - Middle and rear part of the exhaust system, Yeti

1 - Clamping sleeve

- □ align exhaust system free of stress before fitting on ⇒ "1.8 Align exhaust system free of stress", page 543
- □ Tighten screwed connections uniformly

2 - Middle and rear part of the exhaust system

- ☐ for first equipment a building unit, replace individually when carrying out repairs ⇒ "1.7 Replacing the middle and rear part of the exhaust system", page 541
- ☐ Installing the exhaust system without tension <u>⇒ "1.8 Align exhaust</u> " system free of stress", page 543

3 - Hanger

4 - Screw

□ 23 Nm

5 - Retaining strap

- □ Replace if damaged:
- Pay attention to the part number

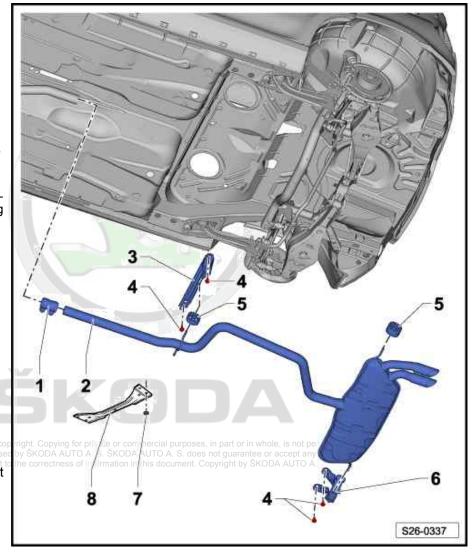
6 - Retaining strap

☐ Replace if damaged.

7 - Nut

□ 20 Nm

8 - Tunnel bridge





1.2.7 Summary of components - Middle and rear part of the exhaust system, Rapid India

1 - Separation point

- for first equipment rear part of exhaust system one building unit with middle and front part of exhaust system
- □ Replace individually when carrying out repairs
- Position clamping sleeve on the marking when installing ⇒ "1.7 Replacing the middle and rear part of the exhaust system", <u>page 541</u>
- ☐ Installing the exhaust system without tension ⇒ "1.8 Align exhaust system free of stress", page 543

2 - Retaining strap

- Replace if damaged.
- 3 Middle and rear part of the exhaust system

4 - Screw

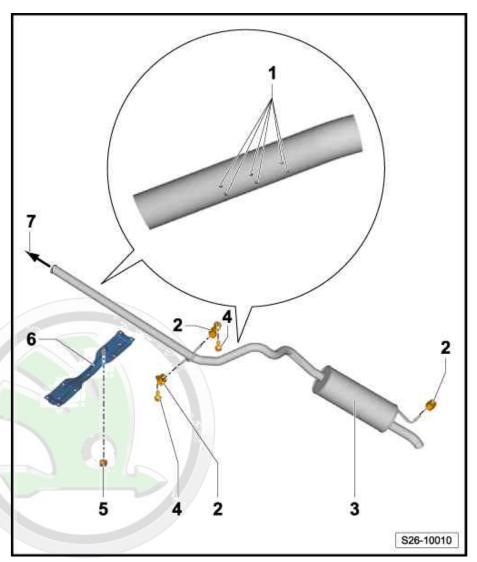
□ 23 Nm

5 - Nut

□ 20 Nm

6 - Tunnel bridge

7 - to catalytic converter







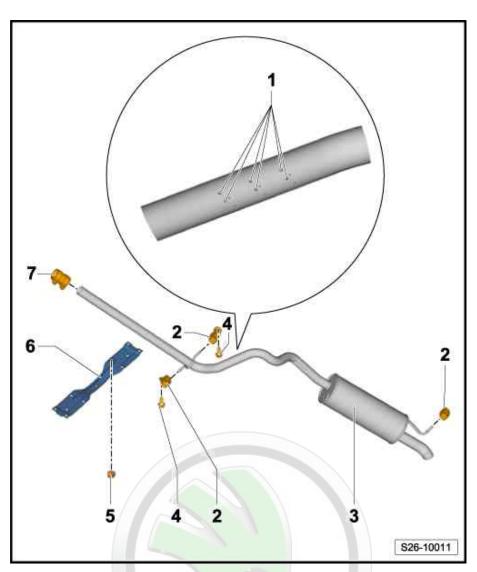
1.2.8 Summary of components - Middle and rear part of the exhaust system, Rapid NH

1 - Separation point

- for first equipment rear part of exhaust system one building unit with middle part of exhaust system
- Replace individually when carrying out repairs
- Position clamping sleeve on the marking when installing
 ⇒ "1.7 Replacing the middle and rear part of the exhaust system", page 541
- ☐ Installing the exhaust system without tension ⇒ "1.8 Align exhaust system free of stress", page 543

2 - Retaining strap

- □ Replace if damaged.
- 3 Middle and rear part of the exhaust system
- 4 Screw
 - □ 23 Nm
- 5 Nut
 - □ 20 Nm
- 6 Tunnel bridge
- 7 Clamping sleeve
 - □ 23 Nm



1.3 Removing and installing the exhaust gas temperature transmitter 3 - G495-

⇒ "1.3.1 Removing and installing exhaust gas temperature sender 3 G495, left-hand drive vehicles, Fabia II, Roomster, Rapid NH, Octavia II, Superb II, Yeti", page 514

⇒ "1.3.2 Removing and installing exhaust gas temperature sender 3 G495, right-hand drive vehicles, Fabia II, Roomster, Rapid NH", page 516

1.3.1 Removing and installing exhaust gas
temperature sender 3 - G495-, left-hand
drive vehicles, Fabia II, Roomster, RapProtected by copyright, Copyright or Drivate or commercial purposes, in part or in whole, is not permitted
id NH, Octavia II, Superb II of Yeti DA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability
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Special tools and workshop equipment required

◆ Extension SW 6 from the set of tools - T10395-

Removing

- Remove lambda probe G39-:
- Octavia II, Superb, Yeti ⇒ "5.4 Removing and installing lambda probe G39 with heating for lambda probe Z19, Octavia II, Superb II, Yeti", page 492
- ◆ Fabia II, Roomster, Rapid NH ⇒ "5.5 Removing and installing Lambda probe G39 with heating for lambda probe Z19, Fabia II, Roomster, Rapid NH with engine identification characters CAYB, CAYC", page 493
- Disconnect plug connection for exhaust gas temperature sender 3 - G495- and move clear electric cable.
- Unscrew exhaust gas temperature sender 3 G495- -1- with a tool from the tool set - T10395-.

Installing

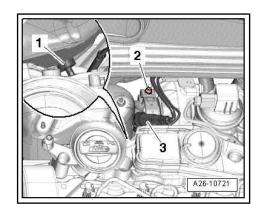
Installation is carried out in the reverse order. When installing, observe the following:



Caution

Malfunction caused by loose exhaust gas temperature transmitter.

- The threads of the exhaust gas temperature sender -G495- and -G648- are coated. It must NOT be coated additionally with hot bolt paste and must be tightened to the specified tightening torque.
- The torque wrench V.A.G 1331- must be used for tightening!



Fitting position of the exhaust gas temperature sender - G495-.

- Angled end to the left side of the vehicle
- Angle $-\alpha$ to marking -arrow- = approximately 17°

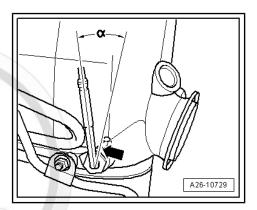


Caution

In this case, the setting of the torque wrench must be 29 Nm.

The correct tightening torque of 45 Nm is reached by extending torque wrench with wrench out of the set of tools - T10395/6-

Screw in exhaust gas temperature sender 3 - G495- by hand.



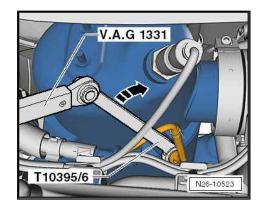


Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

Then set the recommended tightening torque with the torque wrench together with the wrench from the set of tools -T10395/6-.

Tightening torques - summaries of components

- Exhaust gas temperature sender 3 G495-"1.1.1 Summary of components - Pre-exhaust pipe with diesel particle filter, Fabia II, Roomster, Rapid NH", page 496
- Exhaust gas temperature sender 3 G495-⇒ "1.1.3 Summary of components - Pre-exhaust pipe with diesel particle filter up to 09.2010, Octavia II", page 500.
- Exhaust gas temperature sender 3 G495-"1.1.4 Summary of components - Pre-exhaust pipe with diesel particle filter, Octavia II from 10.2010, Superb II, Yeti", page 502



1.3.2 Removing and installing exhaust gas temperature sender 3 - G495-, righthand drive vehicles, Fabia II, Roomster, Rapid NH

Special tools and workshop equipment required

Extension SW 6 from the set of tools - T10395-

Removing

- Remove engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11.
- Disconnect plug connection -3- from exhaust gas temperature sender 3 - G495- .
- Unscrew exhaust temperature sender 3 G495- with -T10395/6- Pos. -5-⇒ "1.1.2 Summary of components - Pre-exhaust pipe with diesel particle filter, right-hand drive, Fabia II, Roomster, Rapid NH", page 498 from the pre-exhaust pipe.

Installing

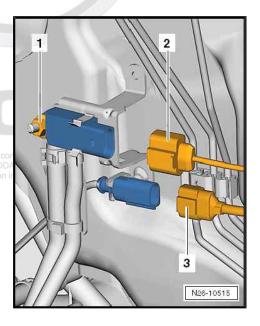
Assembly is carried out in the reverse order. When installing, observe the following:



Caution

Malfunction caused by loose exhaust gas temperature trans-

- The threads of the exhaust gas temperature sender -G495- and -G648- are coated. It must NOT be coated additionally with hot bolt paste and must be tightened to the specified tightening torque.
- The torque wrench V.A.G 1331- must be used for tightening!





Fitting position of the exhaust temperature sender - G495-

- Angle $-\alpha$ = approximately 38°
- -arrow- faces driving direction



Caution

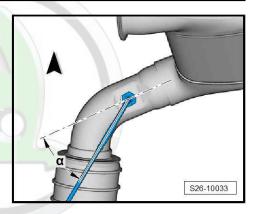
In this case, the setting of the torque wrench must be 29 Nm.

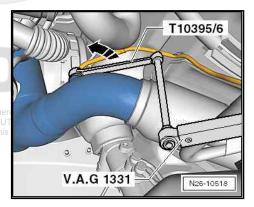
The correct tightening torque of 45 Nm is reached by extending torque wrench with wrench out of the set of tools - T10395/6- .

- Screw in exhaust gas temperature sender 3 G495- by hand.
- Then set the recommended tightening torque with the torque wrench together with the wrench from the set of tools -T10395/6- .

Tightening torques - summaries of components

 Exhaust gas temperature sender 3 - G495-⇒ "1.1.2 Summary of components - Pre-exhaust pipe with diesel particle filter, right-hand drive, Fabia II, Roomster, Rap-<u>id NH", page 498</u>.





1.4 Removing and installing differential pressure transmitter - G505-

⇒ "1.4.1 Distinguishing features", page 517

⇒ "1.4.2 Removing and installing differential pressure sender G505, Fabia II, Roomster, Rapid NH with engine identification characters CAYB, CAYC)", page 519

⇒ "1.4.3 Removing and installing differential pressure sender G505, Octavia II, Superb II, Yeti", page 521

1.4.1 Distinguishing features



Note

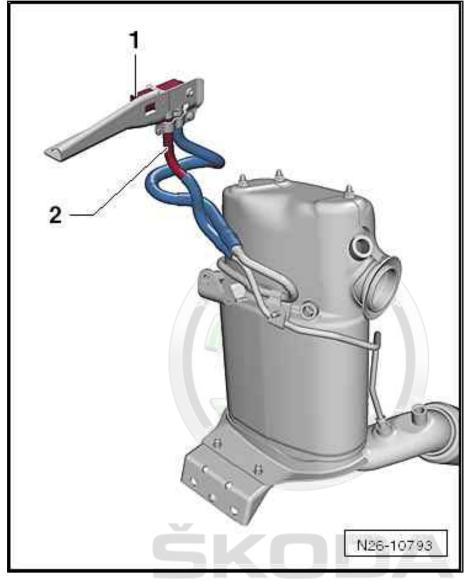
- The differential pressure transmitter G505- determines the loading status of the particle filter.
- Different measuring procedures are used.

Sequence 1 (measure differential pressures)

The differential pressure sender - G505- is connected to the measuring points upstream and downstream particle filter via two pipes.



- 1 Differential pressure transmitter G505- with 2-pipe line
- 2 Exhaust gas supply

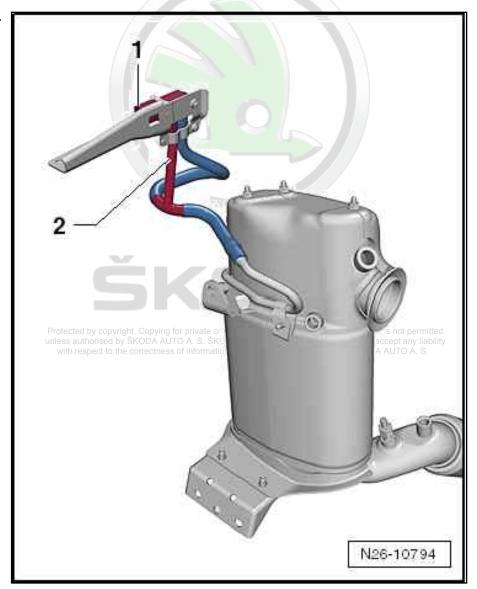


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The differential pressure encoder - G505- is connected to the particle filter.



- 1 Differential pressure transmitter - G505- with 1-pipe line
- 2 Fresh air supply



1.4.2 Removing and installing differential pressure sender - G505-, Fabia II, Roomster, Rapid NH with engine identification characters CAYB, CAYC)

The differential pressure sender - G505- is connected to the measuring points upstream and downstream particle filter via 2 pipes.

The differential pressure sender - G505- determines the volumetric efficiency of the particle filter volume.

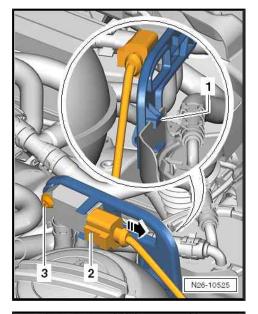
Removing

- Remove engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11.
- Before detaching, spray the hoses of the differential pressure sender - G505- with solvent.



For left-hand drive

- Disconnect the plug connection -2- at the differential pressure sender - G505- .
- Pull off the hoses carefully and straight from the connection fittings (the connection fittings break off slightly from the differential pressure sender - G505-).
- Unscrew screw -3- and remove differential pressure sender -G505-.



For right-hand drive

- Disconnect the plug connection -2- at the differential pressure sender - G505- .
- Pull off the hoses carefully and straight from the connection fittings (the connection fittings break off slightly from the differential pressure sender - G505-).
- Unscrew nut -1- and remove differential pressure sender -G505-.

Installing

When installing, pay attention to the following points:

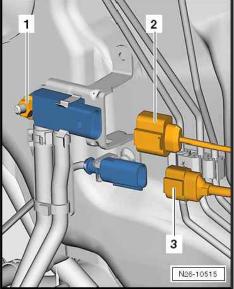


Note

- Before installing, blow out the hoses from the differential pressure sender G505- to the particle filter with compressed air in the direction of the particle filter (blocked or iced up by condensation water).
- Pay attention to the tight connection and leaktightness of the hoses.
- After replacing the differential pressure transmitter G505-, an adaption must be performed in the function "Targeted functions" to be lice diagnostic tester mercial purposes, in part or in whole, is not permitted

Tightening torques - summaries of components opyright by SKODA AUTO A. S.

Differential pressure transmitter - G505-⇒ "1.1 Summary of components - pre-exhaust pipe", page 496





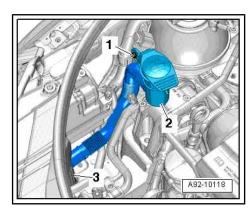
1.4.3 Removing and installing differential pressure sender - G505-, Octavia II, Superb II, Yeti

The differential pressure sender - G505- is connected to the measuring points upstream and downstream particle filter via 2 pipes.

The differential pressure sender - G505- determines the volumetric efficiency of the particle filter volume.

Removing

- Remove engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11.
- Unscrew bolt -1-.
- Push the filler tube with the filler neck -2- for the washer-fluid reservoir to the side.
- Before detaching, spray the hoses of the differential pressure sender - G505- with solvent.



- Disconnect the plug -2- from the differential pressure sender - G505- and unscrew the fixing screws -4-.
- Pull off the hoses carefully and straight from the connection fittings (the connection fittings break off slightly from the differential pressure sender - G505-).
- Unscrew screw -3- and remove differential pressure sender -G505-.

Installing

- When installing, pay attention to the following points:

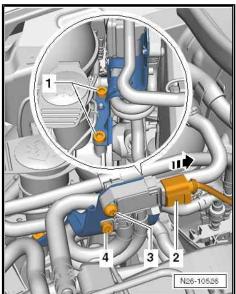


Note

- Before installing, blow out the hoses from the differential pressure sender - Ğ505- to the particle filter with compressed air in the direction of the particle filter (blocked or iced up by condensation water).
- Pay attention to the tight connection and leaktightness of the hoses.
- After replacing the differential pressure transmitter G505-, an adaption must be performed in the function "Targeted functions" ⇒ Vehicle diagnostic tester.

Tightening torques - summaries of components

- Differential pressure transmitter G505-⇒ "1.1.3 Summary of components - Pre-exhaust pipe with diesel particle filter up to 09.2010, Octavia II", page 500.
- Differential pressure transmitter G505-⇒ "1.1.4 Summary of components - Pre-exhaust pipe with diesel particle filter, Octavia II from 10.2010, Superb II, Yeti", page 502





1.5 Removing and installing the exhaust gas temperature transmitter 4 - G648-

⇒ "1.5.1 Removing and installing the exhaust gas temperature <u>sender 4 G648 , left-hand drive", page 522</u>

⇒ "1.5.2 Removing and installing exhaust gas temperature sender 4 G648, right-hand drive vehicles, Fabia II, Roomster, Rapid NH", page 524

Removing and installing the exhaust 1.5.1 gas temperature sender 4 - G648-, lefthand drive

Special tools and workshop equipment required

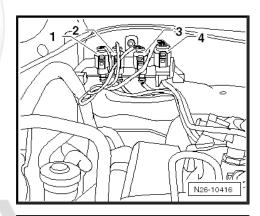
- Extension SW 6 from the set of tools T10395-
- Torque wrench V.A.G 1331-

Removing

Remove engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11.

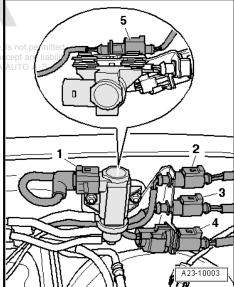
For vehicles Fabia II, Roomster, Rapid NH

Disconnect plug connection for exhaust gas temperature sender 4 - G648- -3-.



For vehicles Octavia II, Superb II, Yeti

Disconnect plug connection for exhaust gas temperature sender 4 - G648-2-2- Copyright. Copying for private or commercial purposes, in part or in whole





Continued for all vehicles

- Unscrew exhaust gas temperature sender 4 G648- -1- from exhaust pipe downstream diesel particle filter.
- Detach the lines from the brackets at the engine and the heat shield from the particle filter, if necessary remove installed cable straps.

Installing

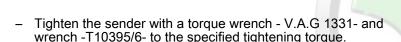
Assembly is carried out in the reverse order. When installing, observe the following:



Caution

Malfunction caused by loose exhaust gas temperature trans-

- The threads of the exhaust gas temperature sender -G495- and -G648- are coated. It must NOT be coated additionally with hot bolt paste and must be tightened to the specified tightening torque.
- The torque wrench V.A.G 1331- must be used for tightening!





Note

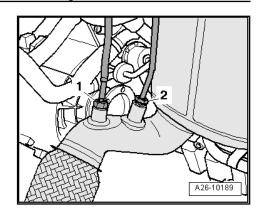
The illustration differs from the vehicle. The arrangement of the wrenches is correct.

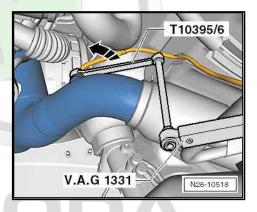


Caution

In this case, the setting of the torque wrench must be 29 Nm.

The correct tightening torque of 45 Nm is reached by extending torque wrench with wrench out of the set of tools - T10395/6-.





Tightening torques - summaries of components

- Exhaust gas temperature sender 4 G648-"1.1.1 Summary of components - Pre-exhaust pipe with diesel particle filter, Fabia II, Roomster, Rapid NH", page 496.
- Exhaust gas temperature sender 4 G648-1.1.3 Summary of components - Pre-exhaust pipe with diesel particle filter up to 09.2010, Octavia II", page 500
- Exhaust gas temperature sender 4 G648-⇒ "1.1.4 Summary of components - Pre-exhaust pipe with diesel particle filter, Octavia II from 10.2010, Superb II, Yeti", <u>page 502</u> .



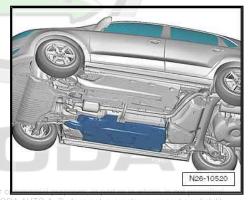
Removing and installing exhaust gas 1.5.2 temperature sender 4 - G648-, righthand drive vehicles, Fabia II, Roomster, Rapid NH

Special tools and workshop equipment required

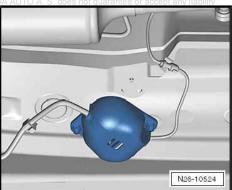
- ♦ Extension SW 6 from the set of tools T10395-
- Torque wrench V.A.G 1331-

Removing

Removing the right underfloor trim panel.



Remove the cover of the plug connection for the exhaust gas temperature sender 4 - G648- .





- Disconnect plug connection for exhaust gas temperature sender 4 - G648-
- Unscrew the exhaust gas temperature sender 4 G648- from the exhaust pipe.

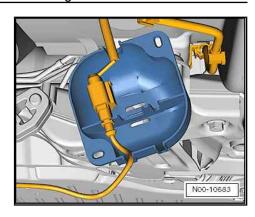
Installing



Caution

Malfunction caused by loose exhaust gas temperature trans-

- The threads of the exhaust gas temperature sender -G495- and -G648- are coated. It must NOT be coated additionally with hot bolt paste and must be tightened to the specified tightening torque.
- The torque wrench V.A.G 1331- must be used for tightening!





Caution

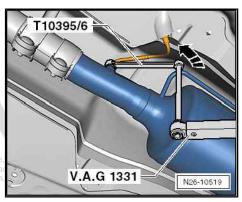
In this case, the setting of the torque wrench must be 29 Nm.

The correct tightening torque of 45 Nm is reached by extending torque wrench with wrench out of the set of tools - T10395/6-

- Screw in exhaust gas temperature sender 4 G648- by hand.
- Tighten the sender with a torque wrench and the wrench -T10395/6- .

Tightening torques - summaries of components

Exhaust gas temperature sender 4 - G648-"1.1.2 Summary of components - Pre-exhaust pipe with diesel particle filter, right-hand drive, Fabia II, Roomster, Rapid NH", page 498



1.6 Removing and installing pre-exhaust pipe

- ⇒ "1.6.1 Removing and installing pre-exhaust pipe with diesel particle filter, Fabia II, Roomster, Rapid NH", page 525
- ⇒ "1.6.2 Removing and installing pre-exhaust pipe with diesel particle filter, right-hand drive, Fabia II, Roomster, Rapid NH", page 529
- ⇒ "1.6.3 Removing and installing oil pre-exhaust pipe with diesel particle filter, Octavia II, Superb II, Yeti", page 533
- ⇒ "1.6.4 Removing and installing pre-exhaust pipe with catalytic converter, Rapid India, Rapid NH", page 539
- 1.6.1 Removing and installing pre-exhaust pipe with diesel particle filter, Fabia II, Roomster, Rapid NH

Special tools and workshop equipment required

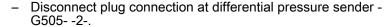
Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ...

1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- Lambda probe open ring spanner set
- Tensioning strap T10038-
- Engine and gearbox jack, e.g. -V.A.G 1383 A- or -VAS 6931-
- Set of tools T10395-
- Hot bolt paste G 052 112 A3-
- Pliers for spring-type clips
- Transport security T10403-

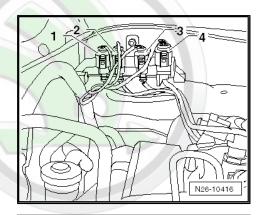
Removing

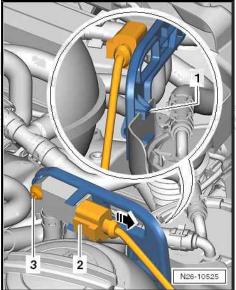
- Remove engine cover
 - ⇒ "1.1 Removing and installing engine trim panel", page 11.
- Disconnect plug connection for exhaust gas temperature sender 1 - G235- .
- Disconnect plug connection for exhaust gas temperature sender 3 - G495- .
- Disconnect plug connection for exhaust gas temperature 3 sender 4 - G648- .
- Disconnect plug connection for lambda probe G39-.

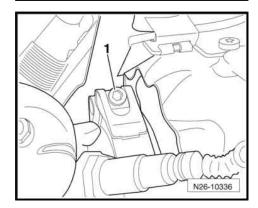


- Unscrew screw -3- and remove differential pressure sender -G505-.
- Detach the lines from the brackets at the engine and the heat shield from the particle filter, if necessary remove installed cable straps.
- Remove the lambda probe G39- using the ring spanner for lambda probe.
- Use the set of tools T10395- to remove the exhaust gas temperature sender 3 - G495-.

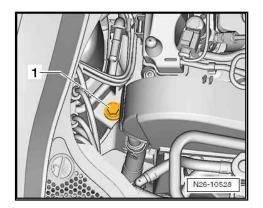
Remove warm-type clamp -1- between diesel particle filter and exhaust turbocharger.



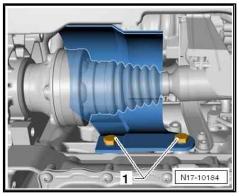




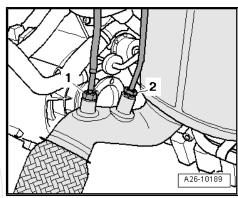
- Unscrew bolt -1-.
- Remove the sound dampening system ⇒ Body Work; Rep.



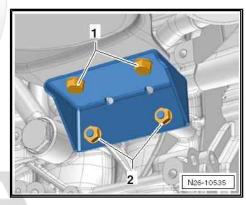
- Unscrew screws -1- of protective plate for right drive shaft, if present.
- Lower the assembly carrier in the service position ⇒ Chassis; Rep. gr. 40.



Unscrew exhaust gas temperature sender 4 - G648- -1- from exhaust pipe downstream diesel particle filter.



- Release the screws -1- and then the nuts -2-.
- Remove bracket for diesel particle filter.

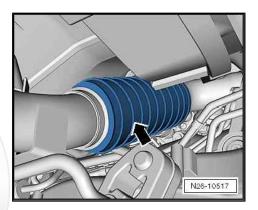


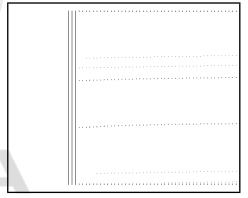




Note

- The assistance of a 2nd mechanic is required for guiding out the diesel particle filter.
- The decoupling element in the pre-exhaust pipe should not be bent by more than 10° risk of damage.
- Secure the decoupling element with the transport security -T10403- against overtensioning -arrow-.
- Slacken the fixing nuts -arrows- of the clamping sleeve and slightly push it back from the pre-exhaust pipe.
- Carefully remove the pre-exhaust pipe with particle filter above the lowered assembly carrier together with the differential pressure sender - G505- .





Turn the particle filter by 180° and remove.

Installing

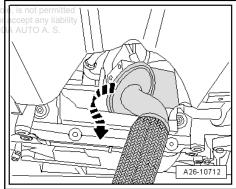
Assembly is carried out in the reverse order. When installing, observe the following:

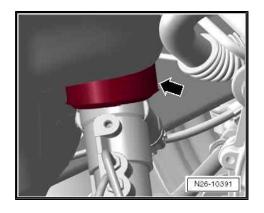


Note

- Before installing the assembly carrier with steering gear, make sure the seal on the steering gear is not bent on the assembly plate. In this way the footwell opening is correctly sealed, otherwise water could penetrate or noise could occur.
- Replace seals, self-locking nuts and the clamp for particle filter.
- All cable straps which are detached when removing, should be attached again in the same place when installing.

Pay attention to the fitting position of the seal -arrow- (steering nut)





Observe sequence when installing the diesel particle filter:

1.	Position diesel particle filter on exhaust gas turbocharger, loosely tighten clamp -1
2.	Loosely screw in screws and nuts -2- to -5- by hand. Diesel particle filter must still be movable.
3.	Tighten clamp -1-
4.	Tighten nuts -2- and -5
5.	Tighten screws and nuts -3- and -4-

- Align exhaust system free of stress 1.8 Align exhaust system free of stress", page 543
- After replacing the diesel particle filter, an adaption must be performed in the function "Targeted functions" \Rightarrow Vehicle diagnostic tester.

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

Summary of components ⇒ "1.1.1 Summary of components - Pre-exhaust pipe with diesel particle filter, Fabia II, Roomster, Rapid NH", page 496

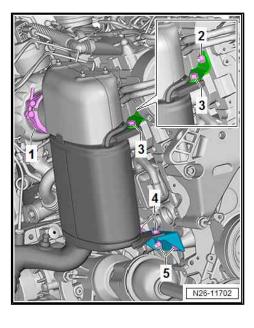
1.6.2 Removing and installing pre-exhaust pipe with diesel particle filter, right-hand drive, Fabia II, Roomster, Rapid NH

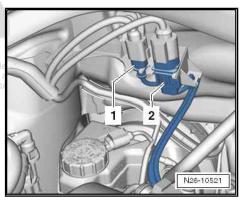
Special tools and workshop equipment required

- Lambda probe open ring spanner set
- Tensioning strap T10038-
- Engine and gearbox jack, e.g. -V.A.G 1383 A- or -VAS 6931-
- ♦ Set of tools T10395-
- ♦ Hot bolt paste G 052 112 A3-
- Pliers for spring-type clips
- ◆ Transport security T10403-

Removing

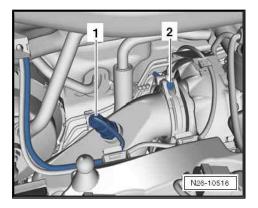
- Remove engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11.
- Disconnect plug connection -1- for exhaust gas temperature sender 1 - G235- .
- Disconnect plug connection -2- of lambda probe G39-.





Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- Remove the lambda probe G39- -1- using the ring spanner for lambda probe.
- Remove warm-type clamp -2- between catalytic converter with diesel particle filter and exhaust turbocharger.
- Lower the assembly carrier in the service position \Rightarrow Chassis; Rep. gr. 40.



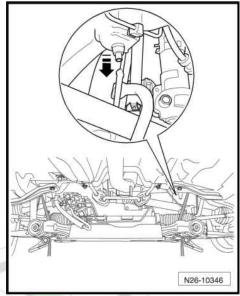
Lower on the right side by approx. 10 cm -arrow-.

Lower on the left side by approx. 7 cm, because of possible overtensioning of the hydraulic lines.



Note

Secure assembly carrier with steering gear to the lower vehicle surface using a tension strap - T10038-.

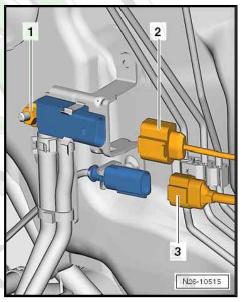


- Disconnect plug connection at differential pressure sender -G505- -2-.
- Unscrew differential pressure sender G505- -1- from bracket.
- Disconnect plug connection -3- from exhaust gas temperature sender 3 - G495- .
- Remove lines from bracket, if necessary remove cable straps.



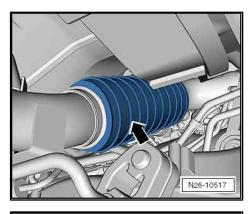
Note

The decoupling element in the pre-exhaust pipe should not be bent by more than 10° - risk of damage.

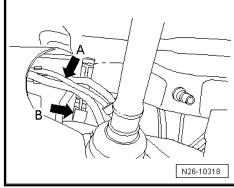


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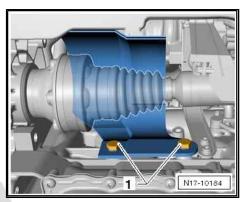
If the catalytic converter with diesel particle filter should be reinstalled, the transport security - T10403- -arrow- must be attached to the decoupling element in the pre-exhaust pipe.



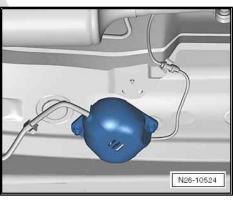
- Open the bracket -arrow B- of the hydraulic lines -A-.



- Unscrew screws -1- of protective plate for right drive shaft, if present.
- Unscrew exhaust temperature sender 3 G495- with -T10395/6- -Pos. 5-
 - ⇒ "1.1.2 Summary of components Pre-exhaust pipe with diesel particle filter, right-hand drive, Fabia II, Roomster, Rapid NH", page 498 from the pre-exhaust pipe.

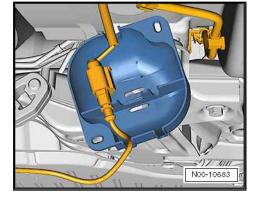


Remove the cover of the plug connection for the exhaust gas temperature sender 4 - G648-.





Disconnect plug connection for exhaust gas temperature sender 4 - G648-

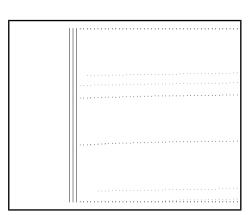


- Release the screws -1- and then the nuts -2-.
- Remove bracket for diesel particle filter.



Note

- The assistance of a 2nd mechanic is required for guiding out the diesel particle filter.
- The decoupling element in the pre-exhaust pipe should not be bent by more than 10° or risk of damage poses, in part or in whole, is
- Secure the decoupling element with the transport lock PA AUTO A S T10403- to prevent over-tensioning.
- Slacken the fixing nuts -arrows- of the clamping sleeve and slightly push it back from the pre-exhaust pipe.
- Unhook the pre-exhaust pipe from the retaining straps.
- Carefully remove the pre-exhaust pipe with particle filter above the lowered assembly carrier together with the differential pressure sender - G505- .



N26-10535

Turn the particle filter by 180° and remove.

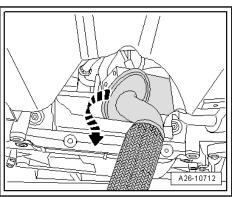
Installing

Assembly is carried out in the reverse order. When installing, observe the following:



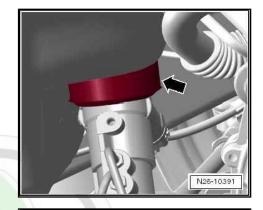
Note

- Before installing the assembly carrier with steering gear, make sure the seal on the steering gear is not bent on the assembly plate. In this way the footwell opening is correctly sealed, otherwise water could penetrate or noise could occur.
- Replace seals, self-locking nuts and the clamp for catalytic converter.
- All cable straps which are detached when removing, should be attached again in the same place when installing.





Pay attention to the fitting position of the seal -arrow- (steering



Observe sequence when installing the diesel particle filter:

1.	Bearing of catalytic converter with diesel particle filter -1- at exhaust gas turbocharger, clamp -2- (only positioning)
2.	Bracket to cylinder block with nuts -4- + -6- (only positioning). Also the screws -5- and -7- (positioning).
3.	Tighten the clamp -2- on the exhaust gas turbocharger.
4.	Tighten the left nut -6- on the cylinder block.
5.	Tighten the right nut -4- on the cylinder block.
6.	Tighten the left screw -7- at the diesel particle filter.
7.	Tighten the right screw -5- at the diesel particle filter.

Align exhaust system free of stress "1.8 Align exhaust system free of stress", page 543

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as this document. Copyright by SKODA AUTO A. S. well as replacement components after removal.

Summary of components ⇒ "1.1.2 Summary of components - Pre-exhaust pipe with diesel particle filter, right-hand drive, Fabia II, Roomster, Rapid NH", page 498

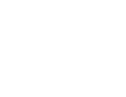
1.6.3 Removing and installing oil pre-exhaust pipe with diesel particle filter, Octavia II, Superb II, Yeti

Special tools and workshop equipment required

- ♦ Set of tools T10395-
- ◆ Ratchet ring wrench T10384-
- Lambda probe open ring spanner set
- ♦ Hot bolt paste G 052 112 A3-
- Pliers for spring-type clips
- ♦ Transport security T10404-

Removing

- Switch off ignition and pull out ignition key.
- Remove engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11

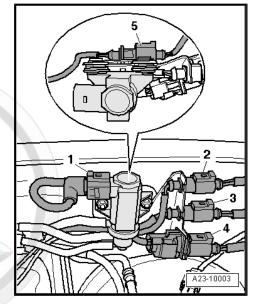


N26-105



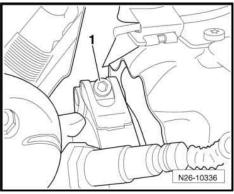
Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- Disconnect the following plug connections and move clear the cables.
- Position 2: exhaust gas temperature sender 4 G648-
- Position 4: lambda probe G39-
- Position 5: exhaust gas temperature sender 3 G495-

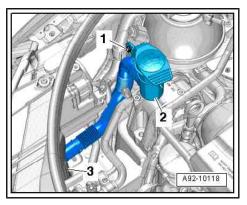


- Remove warm-type clamp -1- between diesel particle filter and exhaust turbocharger.
- Remove lambda probe G39- .

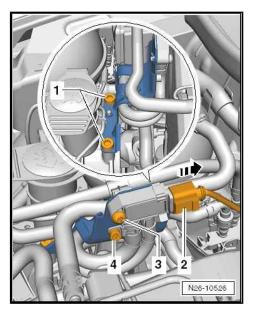




- Unscrew bolt -1-.
- Push the filler tube with the filler neck -2- for the washer-fluid reservoir to the side.



Disconnect the plug from the differential pressure sender -G505- and unscrew the fixing screws -1-.



Slacken line for differential pressure sender - G505- with bracket -1- from top timing belt guard.



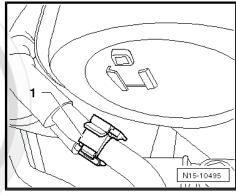
Caution

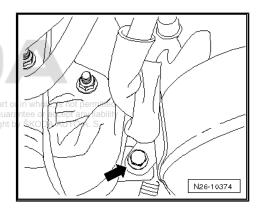
Risk of damage!

- The differential pressure indicator G505- is very sensitive and must not touch somewhere when laying it down with the bracket.
- Remove the bracket with the differential pressure sender -G505- and place it to the rear.
- Use the set of tools T10395- to remove the exhaust gas temperature sender 3 - G495- .
- Release the top screw -arrow- for attaching the diesel particle
- Remove the sound dampening system ⇒ Body Work; Rep. gr. 50.

Vehicles with auxiliary heating

Remove exhaust pipe of auxiliary heating (only for vehicles with extended exhaust pipe) \Rightarrow Heating, Air Conditioning; Rep. gr. 82.







Continued for all vehicles

- Unscrew screws -1- of protective plate for right drive shaft, if
- Remove right drive shaft ⇒ Chassis; Rep. gr. 40

For left-hand drive

Lower the assembly carrier in the service position ⇒ Chassis; Rep. gr. 40.

For right-hand drive

Remove assembly carrier without steering gear ⇒ Chassis; Rep. gr. 40.

Continued for all vehicles

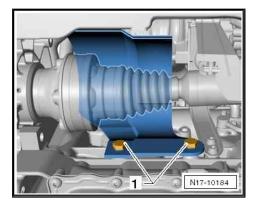
Use the set of tools - T10395- to remove the exhaust gas temperature sender 4 - G648- -1- from the exhaust pipe.

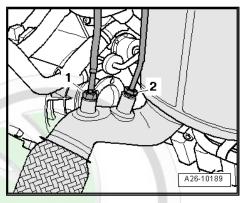
For vehicles Octavia II until 09.2010

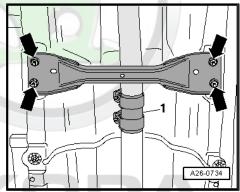
Unscrew pressure line -2- to differential pressure sender -G505- .

Continued for all vehicles

- Unscrew the front cross member -arrows-.
- Slacken the clamping sleeve and slide it backwards.







For vehicles with front-wheel drive

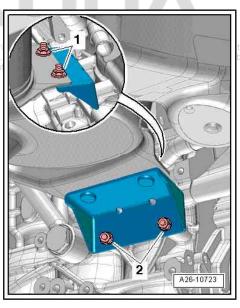
- Release nuts -1- using the ratchet ring wrench T10384-
- Release nuts -2- and remove bracket for diesel particle filter.
- Push the diesel particle filter towards the rear and separate the hose connection of the differential pressure sender - G505at the pipe of the diesel particle filter.



Caution

Risk of damage!

- The differential pressure indicator G505- is very sensitive and must not touch somewhere when laying it down with the bracket.
- Remove differential pressure sender G505- with bracket and hoses and carefully place down.



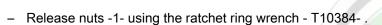


Note

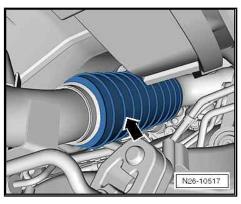
- The assistance of a 2nd mechanic is required for guiding out the diesel particle filter.
- The decoupling element in the pre-exhaust pipe should not be bent by more than 10° risk of damage.
- Secure the decoupling element with the transport security -T10404- against overtensioning -arrow-.
- Turn Diesel particulate filter -1- by 180° -direction of arrowand swivel out.

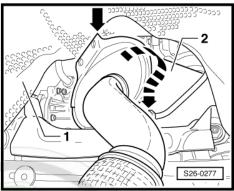
Vehicles with four-wheel drive

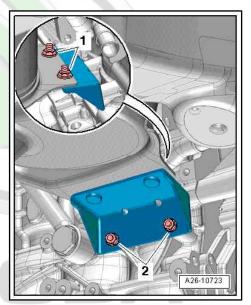
- Lower the assembly carrier in the service position ⇒ Chassis; Rep. gr. 40.
- Remove flange shaft to the right ⇒ Chassis; Rep. gr. 40.



- Release nuts -2- and remove bracket for diesel particle filter.
- Push the diesel particle filter towards the rear and separate the hose connection of the differential pressure sender - G505at the pipe of the diesel particle filter.
- Remove differential pressure sender G505- with bracket and hoses and carefully place down.



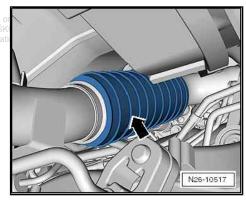






Note

- The assistance of a 2nd mechanic is required for guiding out the diesel particle filter.
- The decoupling element in the pre-exhaust pipe should not be bent by more than 10° - risk of damage.
- Secure the decoupling element with the transport security -T10404- against overtensioning -arrow-.



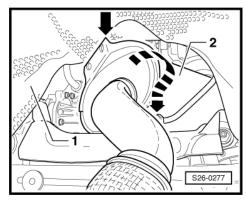
Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

 Press the engine/gearbox assembly towards the front and turn the diesel particle filter -1- by 180° in -direction of arrow- and swivel out.



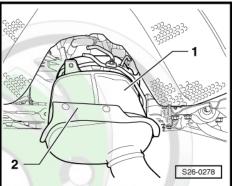
Note

If the bracket of the diesel particle filter should obstruct when swivelling out -arrow-, slightly push aside the sheet metal tunnel -2- if necessary.



Installing

 Insert the diesel particle filter -1- with the bracket -2- upwards as shown and swivel to the left by 180°.



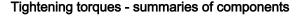
Observe sequence when installing the diesel particle filter:

1.	Position diesel particle filter on exhaust gas turbocharger, loosely tighten clamp -1	
2.	Loosely screw in screws and nuts -2- to -5- by hand. Diesel particle filter must still be movable.	
3.	Tighten clamp -1-	
4.	Tighten nuts -2- and -5	
5.	Tighten screws and nuts -3- and -4-	

Align exhaust system free of stress
 ⇒ "1.8 Align exhaust system free of stress", page 543

If the differential pressure sender - G505- is replaced, the differential pressure sender - G505- must be adapted using the diagnostic unit: Targeted functions; adapt differential pressure sender - G505- .

After replacing the diesel particle filter, the adaptation of the ash mass balance must be set to "0" \Rightarrow Vehicle diagnostic tester.



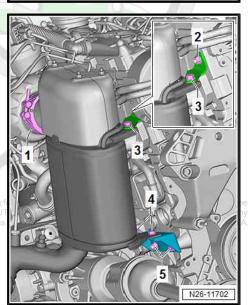


Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- ♦ Summary of components

 ⇒ "1.1.3 Summary of components Pre-exhaust pipe with diesel particle filter up to 09.2010, Octavia II", page 500.
- Summary of components ⇒ "1.1.4 Summary of components - Pre-exhaust pipe with diesel particle filter, Octavia II from 10.2010, Superb II, Yeti", page 502.





1.6.4 Removing and installing pre-exhaust pipe with catalytic converter, Rapid India, Rapid NH

Special tools and workshop equipment required

- ♦ Tensioning strap T10038-
- ◆ Engine and gearbox jack, e.g. -V.A.G 1383 A- or -VAS 6931-
- ♦ Hot bolt paste G 052 112 A3-
- ◆ Transport security T10403-

Removing

- Remove engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11.
- Remove fixing clamp -2- between catalytic converter and exhaust gas turbocharger.
- Remove the sound dampening system ⇒ Body Work; Rep. gr. 50.
- Lower the assembly carrier in the service position ⇒ Chassis; Rep. gr. 40.



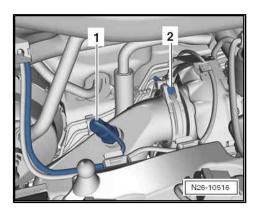
Note

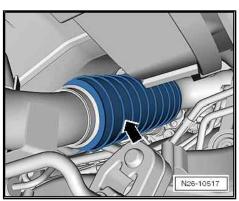
Secure assembly carrier with steering gear to the lower vehicle surface using a tension strap - T10038- .

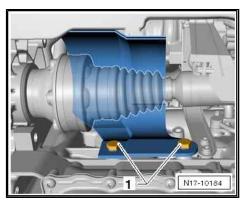
If the catalytic converter should be reinstalled, the transport security - T10403- -arrow- must be attached to the decoupling element in the pre-exhaust pipe.



Unscrew screws -1- of protective plate for right drive shaft, if present.









Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- Release the screws -1- and then the nuts -2-.
- Remove bracket of catalytic converter.



Note

- ♦ The assistance of a 2nd mechanic is required for removing the catalytic converter.
- ♦ The decoupling element in the pre-exhaust pipe should not be bent by more than 10° risk of damage.
- Secure the decoupling element with the transport lock -T10403- to prevent over-tensioning.
- Slacken the fixing nuts -arrows- of the clamping sleeve and slightly push it back from the pre-exhaust pipe.



Note

If necessary, the catalytic converter must be separated from the middle part of the exhaust system

⇒ "1.7.1 Replacing middle and rear part of the exhaust system, Fabia II, Roomster, Rapid India, Rapid NH", page 541

- Carefully remove the pre-exhaust pipe with catalytic converter above the slackened assembly carrier.
- Turn the catalytic converter by 180° and remove.

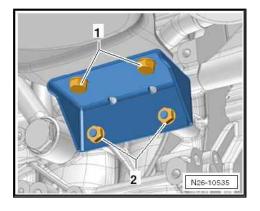
Installing

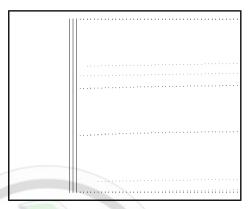
Assembly is carried out in the reverse order. When installing, observe the following:

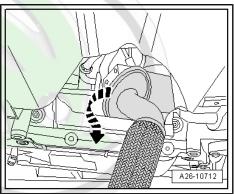


Note

- Before installing the assembly carrier with steering gear, make sure the seal on the steering gear is not bent on the assembly plate. In this way the footwell opening is correctly sealed, otherwise water could penetrate or noise could occur.
- Replace seals, self-locking nuts and the clamp for catalytic converter.









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Pay attention to the fitting position of the seal -arrow- (steering

Observe the sequence when installing:

- Bearing of catalytic converter at exhaust gas turbocharger, loosely fasten the clamp. 2. Loosely screw the screws and nuts for the bracket on the
- cylinder block.
- Tighten the clamp on the turbocharger.
- Tighten nut and screws on cylinder block.
- Align exhaust system free of stress ⇒ "1.8 Align exhaust system free of stress", page 543

Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- Summary of components ⇒ "1.1.5 Summary of components - Pre-exhaust pipe with catalytic converter, Rapid India, Rapid NH", page 504
- 1.7 Replacing the middle and rear part of the exhaust system
- ⇒ "1.7.1 Replacing middle and rear part of the exhaust system, Fabia II, Roomster, Rapid India, Rapid NH", page 541
- ⇒ "1.7.2 Replacing middle and rear part of the exhaust system, Octavia II, Superb II, Yeti", page 542
- 1.7.1 Replacing middle and rear part of the exhaust system, Fabia II, Roomster, Rapid India, Rapid NH

Special tools and workshop equipment required on in this document. Copyright by SKODA AUTO A. S.

- ♦ Body saw e.g. -V.A.G 1523 A-
- Protective goggles

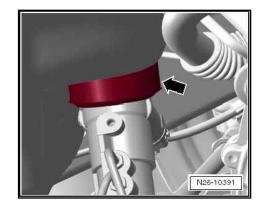
Work procedure

For separating the middle or rear silencer, a separation point is provided in the connecting pipe, which is marked with a recess.



WARNING

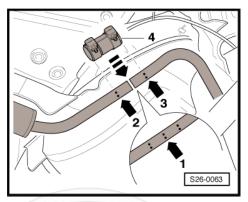
To avoid injury from metal shavings, wear eye protection and protective clothing.





Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

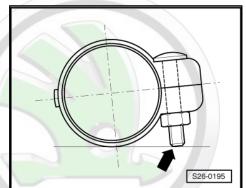
- Separate exhaust pipe at the separation point -arrow 1- with body saw (e.g. - V.A.G 1523 A-) at a right angle.
- When installing, position clamping sleeve -4- at the side markings -arrow 2- and -arrow 3-.



- Install clamping sleeve in such a way that the ends of the screws do not protrude beyond the bottom edge of the clamping sleeve.
- Align exhaust system free of stress ⇒ "1.8 Align exhaust system free of stress", page 543.
- Tighten bolted connections of clamping sleeve evenly.
- The bolted connection points to the right.

Tightening torques

Component	Nm
Screws on clamping sleeve	23 Nm



1.7.2 Replacing middle and rear part of the exhaust system, Octavia II, Superb II, Yeti

Special tools and workshop equipment required

- ♦ Body saw e.g. -V.A.G 1523 A-
- Protective goggles

Work procedure





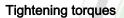
- For individually replacing the middle or rear part of the exhaust system, a separation point is provided in the connecting pipe.
- The separation point is marked by indentations on the circumference of the exhaust pipe.



WARNING

To avoid injury from metal shavings, wear eye protection and protective clothing.

- Cut exhaust pipe at right angles at the separation point arrow -2-.
- When installing, position clamping sleeve -4- at the side markings -arrow 1- and -arrow 3-.
- Turn the clamping sleeve -4- in such a way that the ends of the screws are as far upwards as possible.
- Align rear part of exhaust system horizontally and tighten clamping sleeve.
- Align exhaust system free of stress ⇒ "1.8 Align exhaust system free of stress", page 543



Component	Nm
Screws on clamping sleeve	23 Nm

Align exhaust system free of stress 1.8

⇒ "1.8.1 Aligning exhaust system free of stress, Fabia II, Roomster, Rapid India, Rapid NH", page 543

⇒ "1.8.2 Aligning exhaust system free of stress, Octavia II", page

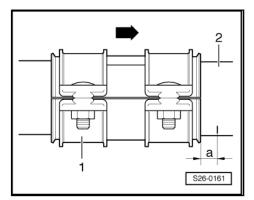
⇒ "1.8.3 Aligning exhaust system free of stress, Superb II, Yeti", page 545

1.8.1 Aligning exhaust system free of stress, Fabia II, Roomster, Rapid India, Rapid

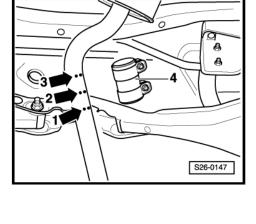
Condition:

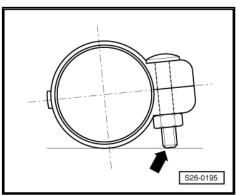
- The exhaust system is aligned when cold.
- Slacken front clamping sleeve -1- and align to exhaust pipe -2- (-arrow- points in direction of travel).

-a- = 5 mm



- Install clamping sleeve in such a way that the ends of the screws -arrow- do not protrude beyond the bottom edge of the clamping sleeve.
- Tighten front screw by hand.

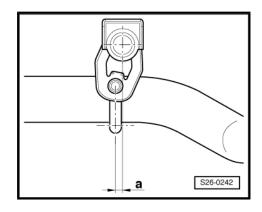




- Push the rear part of the exhaust system so far forward until the initial load -dimension a- on the retaining strap = 3 ... 7 mm.
- The bolted connection points to the right.
- Tighten bolted connections of clamping sleeve evenly.

Specified torques

Component	Nm
Screws on clamping sleeve	23 Nm

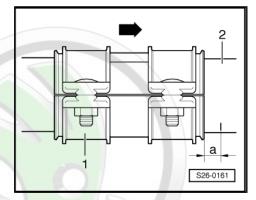


1.8.2 Aligning exhaust system free of stress, Octavia II

- The exhaust system is aligned when cold.
- Slacken front clamping sleeve -1- and align to exhaust pipe -2- (-arrow- points in direction of travel).
 - -a- = 5 mm

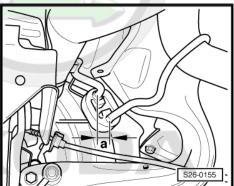
The fixing screws must be located on the right. The screws must not protrude beyond the bottom edge of the clamping sleeve.

Tighten front screw by hand.



For vehicles with front-wheel drive

Push the exhaust system so far forward until the initial load -dimension a- on the retaining strap at the middle part of the exhaust system is 9...11 mm.

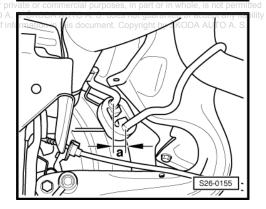


On vehicles with four-wheel drive

Push the exhaust system so far forward until the initial load -dimension a- on the retaining strap at the middle part of the exhaust system is 7...9 mm.

Continued for all vehicles

Tighten bolted connections of clamping sleeve evenly.



Align exhaust tailpipes

Align rear part of exhaust system in such a way that there is an equal distance -a- on the left and right between bumper opening and exhaust tailpipes.

At the same time there must be an equal distance -b- from the bumper opening to the exhaust tailpipes.

For aligning, if necessary the hangers of the exhaust system must be loosened.

Tightening torques

Component	Nm
Screws on clamping sleeve	23 Nm

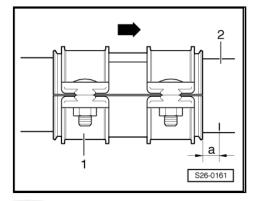
S26-0216

1.8.3 Aligning exhaust system free of stress, Superb II, Yeti

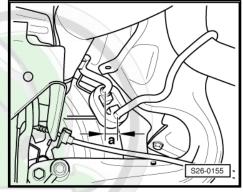
- The exhaust system is aligned when cold.
- Slacken front clamping sleeve -1- and align to exhaust pipe -2- (-arrow- points in direction of travel).
 - -a- = 5 mm

The fixing screws must be located on the right. The screws must not protrude beyond the bottom edge of the clamping sleeve.

Tighten front screw by hand.



- Push the exhaust system so far forward until the initial load -dimension a- on the retaining strap at the middle part of the exhaust system is 9...11 mm.
- Tighten bolted connections of clamping sleeve evenly.



Align exhaust tailpipes

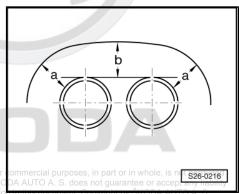
Align rear part of exhaust system in such a way that there is an equal distance -a- on the left and right between bumper opening and exhaust tailpipes.

At the same time there must be an equal distance -b- from the bumper opening to the exhaust tailpipes.

For aligning, if necessary the hangers of the exhaust system must be loosened.

Tightening torques

Screws on clamping sleeve		23 Nm
Component	Protected by copyright unless authorised by \$	NimA AUTO A





Inspecting the exhaust system for leaks 1.9

- Start engine and run in idle.
- Seal off exhaust tailpipes for the duration of the leak check (e.g. with cloth or plug).
- Inspect connection points of cylinder head/exhaust manifold, exhaust gas turbocharger/pre-exhaust pipe etc. for leaktightness by listening and visual inspection.
- Eliminate any leak found.





2 Exhaust gas recirculation system

- ⇒ "2.1 Summary of components exhaust gas recirculation with radiator for exhaust gas recirculation", page 547
- ⇒ "2.2 Removing and installing radiator for exhaust gas recirculation", page 551
- ⇒ "2.3 Check changeover of radiator for exhaust gas recirculation", page 555
- ⇒ "2.4 Test air-tightness of the radiator for exhaust gas recirculation", page 556
- ⇒ "2.5 Clean exhaust gas recirculation system", page 559
- 2.1 Summary of components - exhaust gas recirculation with radiator for exhaust gas recirculation
- ⇒ "2.1.1 Summary of components Exhaust gas recirculation with radiator for exhaust gas recirculation, Roomster, Rapid India, Rapid NH", page 547
- ⇒ "2.1.2 Summary of components" Exhaust gas recirculation with UTO A. S. does not guarantee or a radiator for exhaust gas recirculation, Octavia II, Superb II, Yeti", page 549
- 2.1.1 Summary of components - Exhaust gas recirculation with radiator for exhaust gas recirculation, Roomster, Rapid India, Rapid NH



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

1 - Screw

□ 9 Nm

2 - Connecting pipe

to cylinder head



Caution

Pay attention that the bellows of the connection pipe is not bent or overstretched. There is a risk of crack formation.

3 - Screw

□ 9 Nm

4 - Seal

□ Replace after disassembly

5 - Vacuum line

- do not change bending form
- Connection diagram for vacuum hoses ⇒ "2.5 Connection diagram for vacuum hoses", page 416

6 - Screw

□ 9 Nm

7 - Seal

☐ Replace after disassembly

8 - Connecting pipe

□ To intake manifold



Caution opyright

Pay attention that the bellows of the connection pipe is not bent or overstretched. There is a risk of crack formation.

9 - Screw

□ 9 Nm

10 - Clamp

- □ Replace after disassembly
- □ 5 Nm

11 - Radiator

- for exhaust gas recirculation
- uith integrated exhaust gas recirculation valve N18- with exhaust gas recirculation potentiometer -G212-
- ☐ Check change-over ⇒ "2.3 Check changeover of radiator for exhaust gas recirculation", page 555
- ☐ Test air-tightness of the radiator for exhaust gas recirculation ⇒ "2.4 Test air-tightness of the radiator for exhaust gas recirculation", page 556



- □ Removing and installing \Rightarrow "2.2.1 Removing and installing radiator for exhaust gas recirculation, Fabia II, Roomster, Rapid India, Rapid NH", page 551
- 12 Screw
 - □ 9 Nm
- 13 Seal
 - Replace after disassembly
- 14 Seal
 - □ Replace after disassembly
- 15 Connecting pipe
 - from exhaust manifold



Caution

Pay attention that the bellows of the connection pipe is not bent or overstretched. There is a risk of crack formation.

- 16 Nut
 - □ Replace after disassembly
 - □ 22 Nm
- 17 Screw
 - □ 9 Nm
- 18 Seal
 - Replace after disassembly
- 2.1.2 Summary of components - Exhaust gas recirculation with radiator for exhaust gas recirculation, Octavia II, Superb II, Yeti



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.



Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

1 - Screw

□ 9 Nm

2 - Connecting pipe

□ Replace seal after removal



Caution

Pay attention that the decoupling element of the connection pipe is not bent and therefore is not overstretched. There is a risk of crack formation.

3 - Connector

☐ Exhaust gas recirculation valve - N18-

4 - Screw

□ 9 Nm

5 - Screw

□ 10 Nm

6 - Screw

□ 9 Nm

7 - Connecting pipe

☐ Replace seal after removal

8 - Nut

- □ Replace after disassembly
- □ 22 Nm

9 - Coolant hose with clamp

10 - Radiator

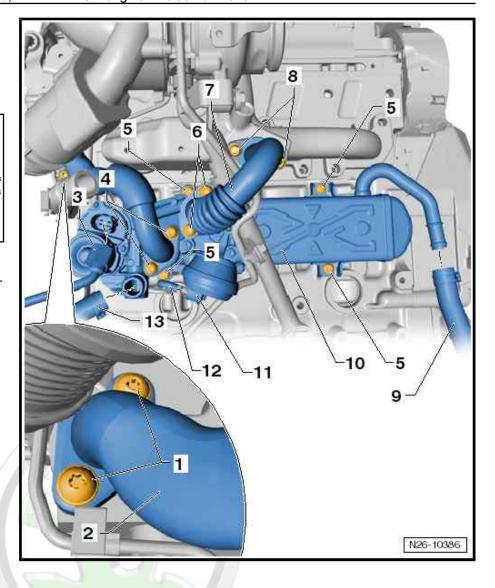
- for exhaust gas recirculation
- with bypass flap
- ☐ Check change-over ⇒ "2.3 Check changeover of radiator for exhaust gas recirculation", page 555
- ☐ Test air-tightness of the radiator for exhaust gas recirculation ⇒ "2.4 Test air-tightness of the radiator for exhaust gas recirculation", page 556
- Removing and installing ⇒ "2.2.2 Řemoving and installing the radiator for exhaust gas recirculation, Octavia II, Superb II, Yeti", page 554

11 - Vacuum unit

☐ for change-over of bypass flap

☐ Connection diagram for vacuum hoses ⇒ "2.5 Connection diagram for vacuum hoses", page 416

13 - Coolant hose with clamp





2.2 Removing and installing radiator for exhaust gas recirculation

⇒ "2.2.1 Removing and installing radiator for exhaust gas recirculation, Fabia II, Roomster, Rapid India, Rapid NH", page 551

⇒ "2.2.2 Removing and installing the radiator for exhaust gas recirculation, Octavia II, Superb II, Yeti", page 554

2.2.1 Removing and installing radiator for exhaust gas recirculation, Fabia II, Roomster, Rapid India, Rapid NH

Special tools and workshop equipment required

- ◆ Hose clamps up to Ø 25 mm MP7-602 (3094)-
- ◆ Catch pan, e.g. -VAS 6208-
- Pliers for spring-type clips
- ◆ Old oil collecting and suction equipment, e.g. -V.A.G 1782-

Removing

If you need to remove or replace the radiator for exhaust gas recirculation.

First inspect recirculation pump 2 - V178- ⇒ Vehicle diagnostic

Only after the inspection of recirculation pump 2 - V178- was suc-A AUTO A.S cessful, should you begin to remove the radiator for exhaust gas recirculation.

A not OK recirculation pump 2 - V178- can be the cause of a faulty exhaust gas recirculation system.



Caution

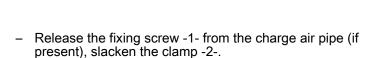
When undertaking all installation work, particularly in the engine compartment because of its cramped construction, please observe the following:

- ◆ Lay lines of all kinds (for example, for fuel, hydraulic fluid, cooling fluid and refrigerant, brake fluid, vacuum) and electrical lines in such a way that the original line guide is re-established.
- To avoid damage to lines/wiring, ensure sufficient clearance to all moving or hot components.
- Remove engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11.
- Remove air filter with air mass meter G70-⇒ "3.5 Removing and installing air filter", page 479.
- Remove battery and battery tray ⇒ Electrical System; Rep. gr. 27.

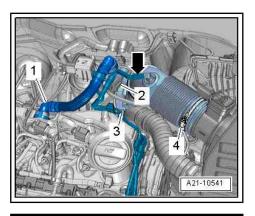


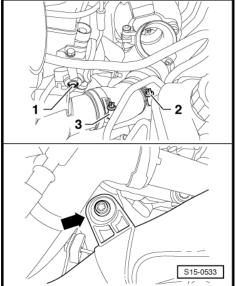
Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

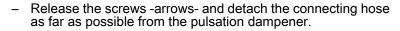
- Remove the hose for the crankcase ventilation -1-, to do so press the release buttons.
- Disconnect the vacuum hose -arrow- from the intake hose.
- Release screw -3- (captive), swivel intake hose with connection fitting towards the rear and detach from exhaust gas turbocharger.
- Remove intake hose.



Release fixing screw -arrow- from charge air pipe.







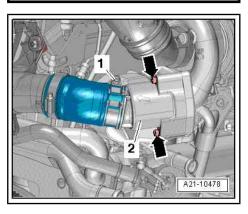
- Push the left charge air pipe as far as possible to the left.
- Remove the pulsation dampener.

For vehicles Fabia II, Roomster, Rapid NH with engine identification characters CAYB, CAYC

Remove pre-exhaust pipe with diesel particle filter ⇒ "1.6 Removing and installing pre-exhaust pipe", page 525

For vehicles Rapid India, Rapid NH with engine identification characters CLNA

Remove pre-exhaust pipe with catalytic converter ⇒ "1.6 Removing and installing pre-exhaust pipe", page 525





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Continued for all vehicles

- Remove connection pipes -A- of cylinder head and exhaust manifold.
- Remove oil feed line and oil return-flow line with support for exhaust turbocharger ⇒ page 393.
- Collect escaping engine oil with the old oil collecting and suction equipment - V.A.G 1782- .
- Remove the vacuum line Pos. -5- on the vacuum box 2.1.1 Summary of components - Exhaust gas recirculation with radiator for exhaust gas recirculation, Roomster, Rapid India, Rapid NH", page 547.
- Disconnect the plug connection at the electrical actuator of the exhaust gas recirculation valve - N18- for the radiator for exhaust gas recirculation.
- Unclamp the coolant feed line and the return-flow line with the hose clamps up to \varnothing 25 mm - MP7-602 (3094)- on the radiator for exhaust gas recirculation.
- Separate the coolant feed line and the return-flow line from the exhaust gas recirculation system.
- Collect escaping coolant with the catch pan VAS 6208- .
- Release screws -Position 12-"2.1.1 Summary of components - Exhaust gas recirculation with radiator for exhaust gas recirculation, Roomster, Rapid India, Rapid NH", page 547 and remove radiator for exhaust gas recirculation.

Installing

Assembly is carried out in the reverse order. When installing, observe the following:

- Replace the gaskets, the sealing rings and the self-locking
- Secure all hose connections with corresponding hose clips.
- Inspecting engine oil level:
- ⇒ Maintenance ; Booklet Fabia II .
- ⇒ Maintenance ; Booklet Roomster .
- ♦ ⇒ Maintenance; Booklet Rapid Indie.
- unles au⇒ Maintenance ; Booklet Rapid NHces not guarantee or accept any liability
 - Inspect coolant level, top up with coolant if necessary 1.2 Draining and filling coolant", page 236.

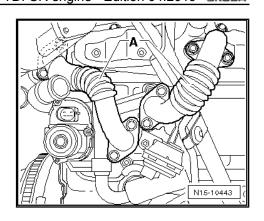
Tightening torques - summaries of components



Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- Summary of components <u>2.1.1 Summary of components - Exhaust gas recirculation</u> with radiator for exhaust gas recirculation, Roomster, Rapid India, Rapid NH", page 547
- Summary of components ⇒ "2.1.1 Summary of components - Charge air cooler, Fabia II, Roomster, Rapid India, Rapid NH", page 409



Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- ♦ Summary of components ⇒ "1.1.1 Summary of components - Exhaust gas turbocharger with component parts, Fabia II, Roomster, Rapid India, Rapid NH", page 385.
- ♦ Summary of components ⇒ "1.3.1 Summary of components - oil feed line, oil return line and exhaust gas turbocharger support, Fabia II, Roomster, Rapid India, Rapid NH", page 207.

2.2.2 Removing and installing the radiator for exhaust gas recirculation, Octavia II, Superb II, Yeti

Special tools and workshop equipment required

- ◆ Hose clamps up to Ø 25 mm MP7-602 (3094)-
- ♦ Catch pan , e.g. -VAS 6208-
- Pliers for spring-type clips
- ♦ Old oil collecting and suction equipment, e.g. -V.A.G 1782-

Removing

If you need to remove or replace the radiator for exhaust gas recirculation.

First inspect recirculation pump 2 - V178- ⇒ Vehicle diagnostic tester

Only after the inspection of recirculation pump 2 - V178- was successful, should you begin to remove the radiator for exhaust gas recirculation.

A not OK recirculation pump 2 - V178- can be the cause of a faulty nercial purposes, in part or in whole, is not permitted exhaust gas recirculation system as authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Convicint by ŠKODA AUTO A. S.



Caution

When undertaking all installation work, particularly in the engine compartment because of its cramped construction, please observe the following:

- Lay lines of all kinds (for example, for fuel, hydraulic fluid, cooling fluid and refrigerant, brake fluid, vacuum) and electrical lines in such a way that the original line guide is re-established.
- To avoid damage to lines/wiring, ensure sufficient clearance to all moving or hot components.
- Remove engine cover
 ⇒ "1.1 Removing and installing engine trim panel", page 11.
- Remove air filter with air mass meter G70 ⇒ "3.5 Removing and installing air filter", page 479
- Remove battery and battery tray ⇒ Electrical System; Rep. gr. 27.
- Remove pre-exhaust pipe with diesel particle filter
 ⇒ "1.6 Removing and installing pre-exhaust pipe", page 525



- Remove connection pipes -A- of cylinder head and exhaust manifold.
- Remove the oil feed line and the support for the exhaust turbocharger ⇒ page 399.
- Collect the escaping engine oil with the old oil collecting and suction equipment - V.A.G 1782- .
- Detach the vacuum line at the vacuum unit, -position 12-⇒ "2.1.2 Summary of components - Exhaust gas recirculation with radiator for exhaust gas recirculation, Octavia II, Superb II, Yeti", page 549
- Disconnect the plug connection at the electrical actuator of the exhaust gas recirculation valve - N18- for the radiator for exhaust gas recirculation.
- Unclamp the coolant feed line and the return-flow line with the hose clamps up to \varnothing 25 mm - MP7-602 (3094)- on the radiator for exhaust gas recirculation.
- Separate the coolant feed line and the return-flow line from the exhaust gas recirculation system.
- Collect escaping coolant with the catch pan VAS 6208-.
- Unscrew screws -Position 5-⇒ "2.1.2 Summary of components - Exhaust gas recirculation with radiator for exhaust gas recirculation, Octavia II, Superb II, Yeti", page 549 and remove exhaust gas recirculation system.



Assembly is carried out in the reverse order. When installing, observe the following:

- Replace the gaskets, the sealing rings and the self-locking nuts.
- Secure all hose connections with corresponding hose clips.
- Inspect coolant level, top up with coolant if necessary ⇒ "1.2 Draining and filling coolant", page 236

Tightening torques - summaries of components



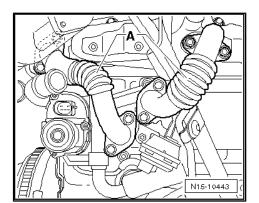
Note

Replace bolts / nuts that are tightened at an angle of rotation, as well as replacement components after removal.

- Summary of components ⇒ "2.1.2 Summary of components - Exhaust gas recirculation
 - with radiator for exhaust gas recirculation, Octavia II, Superb <u>II, Yeti", page 549</u> .
- Summary of components ⇒ "1.1.2 Summary of components - Exhaust gas turbocharger with component parts, Octavia II, Superb II, Yeti", page 388
- Summary of components ⇒ "1.3.2 Summary of components - oil feed line, oil return line and exhaust gas turbocharger support, Octavia II, Superb II, <u>Yeti", page 209</u> .

2.3 Check changeover of radiator for ex-s of information in this document. Copyright by SKODA AUTO A. S. haust gas recirculation

Special tools and workshop equipment required



Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

♦ Hand vacuum pump , e.g. -VAS 6213-

Work procedure



Note

The vacuum setting element for change-over flap is accessible from below.

- Remove the sound dampening system ⇒ Body Work; Rep. gr. 50.
- Unbolt heat shield for right drive shaft.
- Detach vacuum hose from vacuum setting element.
- Connect hand vacuum pump to vacuum setting element.
- Actuate the hand vacuum pump in order to generate negative pressure.
- The vacuum setting element must open the change-over flap up to the stop at maximum 0.08 MPa (0.8 bar) negative pressure and in case of ventilation close it up to the stop



Note

- For this test the opening of the change-over flap can be performed in jolts. In driving mode the change-over flap opens suddenly due to the large negative pressure volume.
- The change-over flap must be closed suddenly when ventilating (e.g. detach vacuum hose).

If the vacuum setting element does not open or close the changeover flap up to the stop:

Replace radiator for exhaust gas recirculation with vacuum setting element ⇒ "2.2 Removing and installing radiator for exhaust gas recirculation", page 551.

2.4 Test air-tightness of the radiator for exhaust gas recirculation



Note

The radiator for exhaust gas recirculation generates a pressure of 0.05 MPa (0.5 bar) on the exhaust side. The pressure in this o A. S. SKODA AUTO A. S. does not guarantee or accept any liability case is measured in the cooling system.

Charge air system tester, e.g. -V.A.G 1687-

Adapter , e.g. -V.A.G 1687/11-

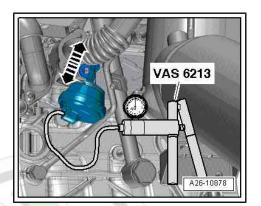
Adapter, e.g. -V.A.G 1687/15-

Adapter, e.g. -V.A.G 1687/16-

Y distributor, e.g. -VAS 691 005/1-

Adapter, e.g. -VAS 691 005/5-

Turbocharger tester - V.A.G 1397A-



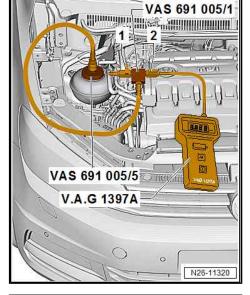
Conditions

• The coolant temperature must be at least 40 °C.

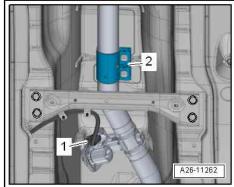
Connect turbocharger tester - V.A.G 1397A-

- Screw the adapter VAS 691 005/5- onto the coolant expansion reservoir.
- Mount Y distributor VAS 691 005/1- onto the adapter VAS 691 005/5-.
- Connect valve -1- of connection »C« and open valve -2- of connection »A«.
- Connect hose of the connection »A« Y distributor to connection »II« of the turbocharger tester - V.A.G 1397A- .
- Put turbocharger tester V.A.G 1397A- in switch position »II« (measuring relative pressure) and switch on. The »II« must be visible.

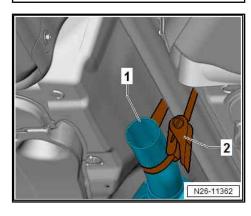
Connect tester for charge air systems - V.A.G 1687-



- If present, disconnect plug -1- from exhaust flap control unit.
- Loosen the clamping sleeve -2- on the exhaust pipe and slide it backwards.

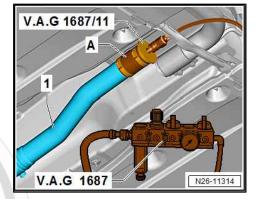


For vehicles without tunnel bridge, the exhaust pipe -1- must be attached at top with a securing strap -2-.



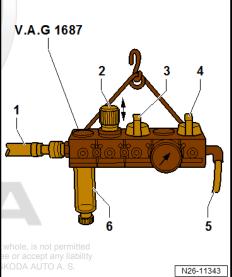
Fabia II 2007 ➤ , Fabia II 2009 ➤ , Fabia II 2011 ➤ , Octavia II 2004 ➤ ... 1.5/77; 81 1.6/55; 66; 77 kW TDI CR engine - Edition 04.2019

- Connect adapter V.A.G 1687/11- with hose -A- to the exhaust pipe (on engine side). Secure hose with hose clamps.
 - Use hose -A- for exhaust pipes with diameter of 55 mm adapter - V.A.G 1687/16-.
 - Use hose -A- for exhaust pipes with diameter of 60 mm or 65 mm = adapter - V.A.G $16\dot{8}\dot{7}/15$ - .
- Connect testing device for charge-air systems V.A.G 1687to adapter - V.A.G 1687/11- .



Prepare tester for charge air system - V.A.G 1687- as follows:

- Unscrew pressure control valve -2- fully and close the valves -3- and -4-.
- The rotary knob must be pulled to the top to be able to rotate the pressure regulating valve -2-.
- Connect testing device for charge-air systems V.A.G 1687to compressed air -1-.
- If there is water in the inspection glass, drain water via the drain plug -6-.

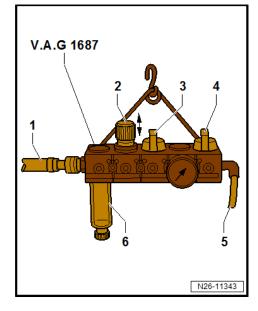


- Open valve -3-.
- Set the pressure to 0.05 MPa (0.5 bar) with the pressure control valve -2-.
- Open valve -4- and wait until the test circuit is filled. If necessary, re-adjust the pressure to 0.05 MPa (0.5 bar).



Note

A small amount of air escapes via the valves into the engine. For this reason no pressure test is possible.





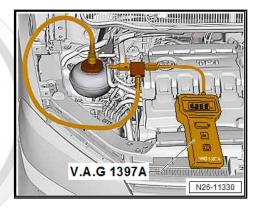
Read off the turbocharger tester - V.A.G 1397A-

- Monitor the turbocharger tester for 5 minutes.
- The pressure displayed on the turbocharger tester must not increase!

If the pressure shown on the turbocharger tester increases, compressed air is escaping into the cooling system on the exhaust

The radiator for exhaust gas recirculation is leaking and must be replaced

⇒ "2.2 Removing and installing radiator for exhaust gas recirculation", page 551.





Note

Depending on cooling of the coolant, a vacuum may be generated when the radiator for exhaust gas recirculation is sealed. A vacuum is indicated on the turbocharger tester by a »minus« symbol.

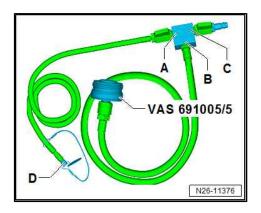
Clean Y distributor - VAS 691 005/1-



Note

After completing the leakage test, the Y distributor - VAS 691 005/1- must be cleaned to remove any moisture that has got in.

- Insert washer jet -D- into the hose connection -A- of the Y distributor.
- Position test adapter VAS 691 005/5- on the hose at connection -B-.
- Connect pressure hose to connection -C-.
- Open the shut-off tap and blow air through the hose for approx. 15 seconds.



2.5 Clean exhaust gas recirculation system

⇒ "2.5.1 Initiate cleaning process of the exhaust gas recirculation system", page 560

⇒ "2.5.2 Clean connecting pipes and pipe sockets", page 565



Note

Cleaning is only available for exhaust gas recirculation modules from part number - 03L 131 512 DQ/DP- .

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 Before starting work, check the part number -1- with endoscope (eg VAS 6748A / 1).

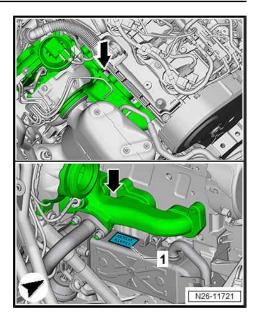
Explanation

Some extreme driving profiles (eg short-distance) can cause lacquering or coking inside the exhaust gas recirculation cooler. In this case, the exhaust warning lamp lights up in the dash panel insert, the event memory contains the codes:

- ◆ P0401 "EGR system throughput too small"
- P046C, "exhaust gas recirculation encoder 1, implausible signal"

In most cases, this coking can be eliminated by the rinsing or cleaning process described below

 \Rightarrow "2.5.1 Initiate cleaning process of the exhaust gas recirculation system", page 560 .



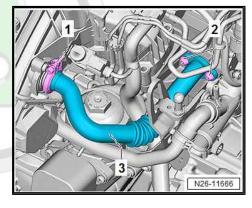
2.5.1 Initiate cleaning process of the exhaust gas recirculation system

Special tools and workshop equipment required

 Coolant flushing system for exhaust gas recirculation - VAS 542 007-



- Remove engine cover
 ⇒ "1.1 Removing and installing engine trim panel", page 11
- Open clamp -1- and remove.
- Remove screws -2- and connecting pipe to the intake manifold -3-.

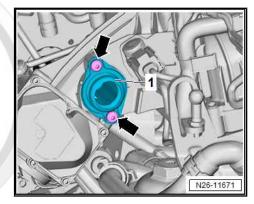




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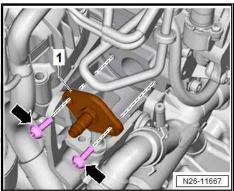


Remove screws -arrows- and remove support -1- from the suction pipe.

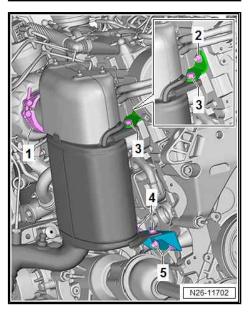


- Fit the adapter VAS 542 007/4- -1- onto the opening on the cylinder head.
- Insert the original screws -arrows- for the connecting pipe and tighten by hand. Make sure that the seal on the adapter is not pinched.



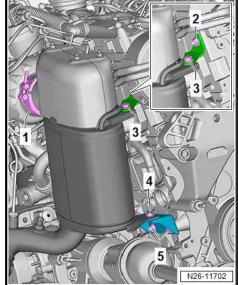


- Unscrew bolt -3-.
- Remove the sound dampening system ⇒ Body Work; Rep. gr. 50.





- Release nuts -4- and screws -5- and remove bracket.
- Open the clamp -1- and push the particle filter to the side.



- Release the screws -1- and then the nuts -2-.
- Remove connecting pipe -3- between the exhaust manifold and radiator for exhaust gas recirculation.
- Disconnect plug -4- on the exhaust gas recirculation valve -N18- .



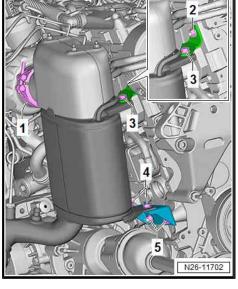
Note

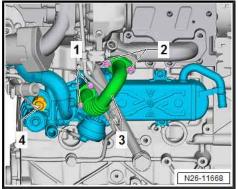
For better illustration, the prop for turbocharger is removed on the image. Expanding the support is not required.

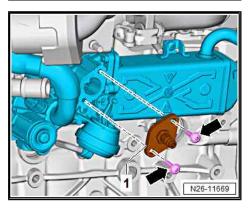
- Fit the adapter VAS 542 007/4- -1- onto the opening on the exhaust gas recirculation cooler.
- Insert the original screws -arrows- for the connecting pipe and tighten by hand. Make sure that the seal on the adapter is not pinched.
- Connect the supply hose VAS 542 007/2-2- of the cleaning device to the adapter on the exhaust gas recirculation cooler.
- Connect the return hose VAS 542 007/2-3- of the cleaning device to the adapter on the cylinder head.
- Connect the battery charger to the vehicle battery.
- Connect the pole clamps of the valve disc VAS 542 007/6to the vehicle battery.
- Connect the pole clamps for the pump VAS 542 007/3- to the vehicle battery.

Prepare Coolant flushing system for exhaust gas recirculation -VAS 542 007-

- Fill the canister VAS 542 007/1- with 9 litres of warm (about 40 °C - 50 °C) tap water.
- Fill 1 litre of cleaner D 600 200 A2- in the canisters.











- Connect the pump suction hose VAS 542 007/2-1- -1- to the canister lid with the connection.
- Feed the open end of the Return hose VAS 542 007/2-3- into the opening -arrow- of the canister lid to about half of the canister height.
- Attach the plug of the valve disc VAS 542 007/6- to the Exhaust gas recirculation valve - N18-.
- Switch on the valve disc VAS 542 007/6- to open the exhaust gas recirculation valve - N18-.

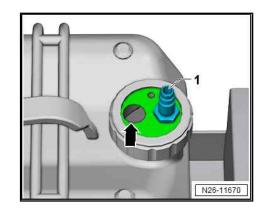


Note

- Make sure that the tap of the relief valve on the supply hose is closed.
- If activation of the exhaust gas recirculation valve via the valve disc - VAS 542 007/6- including the supplied pressure of about 0.16 MPa (1.6 bar) from the pump - VAS 542 007/3- is not sufficient to open the exhaust gas recirculation valve - N18-, the pump switches off after a short time. In this case, the exhaust gas recirculation valve - N18- mechanically defective and the exhaust gas recirculation module must be replaced. Before disconnecting the supply hose, the pressure must be relieved by carefully opening the tap on the relief valve and collecting cleaning solution.
- Clean the connecting pipes and the intake manifold during the cleaning process ⇒ "2.5.2 Clean connecting pipes and pipe sockets", page 565.
- Operate the pump VAS 542 007/3- as follows:

Pump - VAS 542 007/3-	Time	Action
Switching on	25 min	Cleaning
Switching off	10 min	Influence of the cleaning solution
Switching on	25 min	Cleaning
Switching off		End of the cleaning process

- Disconnect the suction hose from the canister, switch on the pump until no more cleaning solution is pumped (emptying the system).
- Pull the return hose out of the canister, making sure that no cleaning solution escapes.
- Empty the canister, observe the corresponding disposal reg-n whole, is not permitted ulations. unle
- Fill canister with 9 litres of warm (about 40 °C 50 °C) tap
- Connect the pump suction hose VAS 542 007/2-1- to the canister lid with the connection.
- Feed and fix the return hose VAS 542 007/2-3- into a suitable vessel (minimum 12 litre capacity).
- Switch on the pump VAS 542 007/3- until the contents of the canister have fully completely through the exhaust gas recirculation system.



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- Release the supply hose VAS 542 007/2-2- and disconnect from adapter for exhaust gas recirculation cooler.
- Connect the compressed air adapter VAS 542 007/5- to the adapter on the exhaust gas recirculation cooler.
- Feed the open end of the Return hose VAS 542 007/2-3- into the opening -arrow- of the canister lid to about half of the canister height.
- The pump suction hose VAS 542 007/2-1- must be connected -1- to the canister lid.
- Connect the compressed air line to the compressed air adapter VAS 542 007/5- and fully blow off the residual water from the exhaust gas recirculation system.

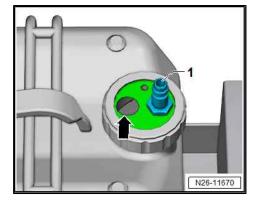


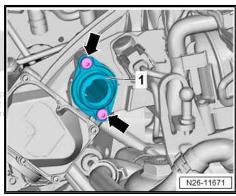
Caution

The water must be completely removed from the exhaust gas recirculation system. Otherwise, it can lead to engine damage.

- Release the compressed air adapter VAS 542 007/5- and disconnect from the adapter on the exhaust gas recirculation cooler.
- Remove the adapter VAS 542 007/4- from the exhaust gas recirculation cooler.
- Install the connecting pipe between the exhaust manifold and the exhaust gas recirculation cooler with new seals and new nuts
 - ⇒ "2.1 Summary of components exhaust gas recirculation with radiator for exhaust gas recirculation", page 547
- Remove the plug of the valve disk VAS 542 007/6- from the exhaust gas recirculation valve - N18- and attach the original plug.
- Move and fix the particle filter into its installation position with a new seal and a new clamp
 ⇒ "1.1 Summary of components - pre-exhaust pipe", page 496 .
- Install the noise insulation ⇒ Body Work; Rep. gr. 50.
- Release the return hose and remove it from the adapter on the cylinder head.
- Inset the support -1- into the intake manifold, the opening of the nozzle points to the throttle valve control unit.
- Insert screws -arrows- and tighten to 9 Nm.
- Remove the adapter VAS 542 007/4- from the cylinder head.

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- Install connecting pipe -3- with new seal ⇒ "2.1 Summary of components - exhaust gas recirculation with radiator for exhaust gas recirculation", page 547.
- Install the engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11.
- Check cleaning effectiveness with ⇒ Vehicle diagnostic tester.
- Drive
- 01 Self-diagnosable systems
- 01 Diesel direct injection and glow plug system EDC 17
- 01 Engine electronics functions
- 01 Check exhaust gas recirculation valve 1 -GX5after cleaning according to rep. guide
- Perform a test drive.
- Query event memory and erase entries if required ⇒ Vehicle diagnostic tester.

2.5.2 Clean connecting pipes and pipe sock-

Special tools and workshop equipment required

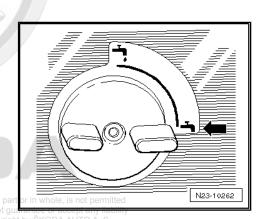
- ◆ Ultrasonic cleaning device VAS 6418-
- Close the drain cock -arrow- of the ultrasonic cleaning device - VAS 6418- on the right side of the housing.

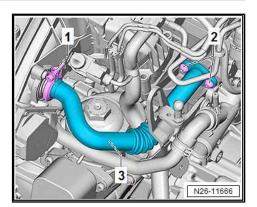


Note

The heating process of the ultrasonic bath can be accelerated when using warm tap water.

- Fill the ultrasonic cleaner VAS 6418- with 1800 ml of tap water and 200 ml cleaner - D 600 200 A2- .
- Insert connecting pipes and pipe sockets, temporarily change the position of the connecting pipes in the bath if required.







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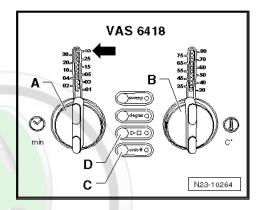
- Turn on the cleaning device by pressing the button on / off -C-.
- Turn the temperature rotary switch -B- until the light is at 40 ° C heating temperature.
- Set the rotary switch for operating time -A- on "10" -arrow-.
- ▶ -D- Press for more than 2 seconds and put the device into operation.



Note

Temperature-controlled cleaning is now switched on. During the heating time, the ultrasound is switched on at intervals for circulating the cleaning liquid. After reaching the preselected temperature, the ultrasound is switched on permanently. The duration of cleaning must be at least 10 minutes, and only begins when a temperature of at least 40 °C has been reached.

After cleaning, rinse connecting pipes and pipe sockets with clean water and blow out with compressed air.





Glow plug system 28 –

Glow plug system

⇒ "1.1 Removing and installing, testing glow plugs", page 567

1.1 Removing and installing, testing glow plugs



Note

Metal glow plugs are installed in this engine.

Special tools and workshop equipment required

- ♦ Flexible-head wrench SW 10 3220-
- Cleaning and degreasing agent, e.g. -D 009 401 04-
- Protective goggles and gloves

Checking

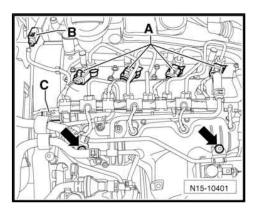
The Glow Plug System is monitored by the self-diagnosis of the engine control unit.

The necessary inspections are performed with the function "Targeted fault finding" ⇒ Vehicle diagnostic tester.

Removing

Observe all safety measures and notes for assembly work on the fuel system and on the injection system as well as the rules for cleanliness = "3.1 Rules of cleanliness", page 7 oht by SKODA AUTO A

- Switch off ignition and pull out ignition key.
- Remove engine cover ⇒ "1.1 Removing and installing engine trim panel", page 11
- If present, remove the noise insulation at the injection units.
- Disconnect the plugs from the injection units -A-, the differential pressure sender - G505- -B- and the fuel pressure sender - G247- -C-.
- Unscrew the fixing screws -arrows- of the coolant line from the intake manifold and lay the line in front of the intake manifold.

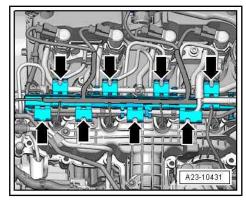


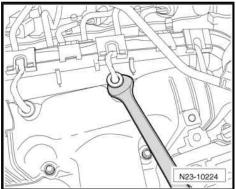
Open the catch pegs of the wiring to expose the wiring loom -arrows-.



Caution

- Carefully remove the glow plug connectors from the glow plugs.
- If the plug is damaged when disconnecting it, the complete wiring loom including the plugs must be replaced (plugs cannot be replaced separately).
- Carefully disconnect the plug from the glow plugs. Use the assembly spanner SW 12 for help.





- Unscrew the fixing nut of the fuel return-flow line on the intake manifold, open the spring strap clamp -arrow- and remove the cable from the fuel distributor.
- Remove the complete fuel return-flow line and place it down in front of the intake manifold.
- Clean the pencil type glow plug channel in the cylinder head. No dirt must get into the cylinder.

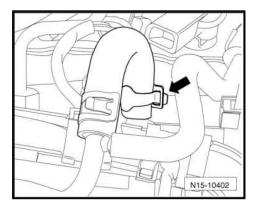
When cleaning, for example:



WARNING

Wear protective gloves and protective goggles when working with grease remover!

- 1. Suction off heavy dirt using a vacuum cleaner.
- 2. Spray the pencil type glow plug channel using a brake cleaner or a suitable cleaner, let it take effect for a short period of time and blow out with compressed air.
- 3. Then clean the pencil type glow plug channel with a cloth which is wetted with oil.







- To release the glow plugs, use socket wrench SW 10 - 3220- .

Installing

- To tighten the glow plugs, use socket wrench SW 10 3220-.
- Tighten glow plugs.
- Fit the plug again onto the relevant glow plugs and check for firm seating.
- Querying and erasing event memory of engine control unit > Vehicle diagnostic tester.

Tightening torques

Component	Nm
Glow plug	18 Nm

